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### PUBLISHER'S NOTE.

This number of the *ECLECTIC* closes the thirty-sixth volume of the new series. According to the custom to which we have adhered for many years, we shall continue to send the *ECLECTIC* to all subscribers who do not notify us of their desire to have it discontinued.

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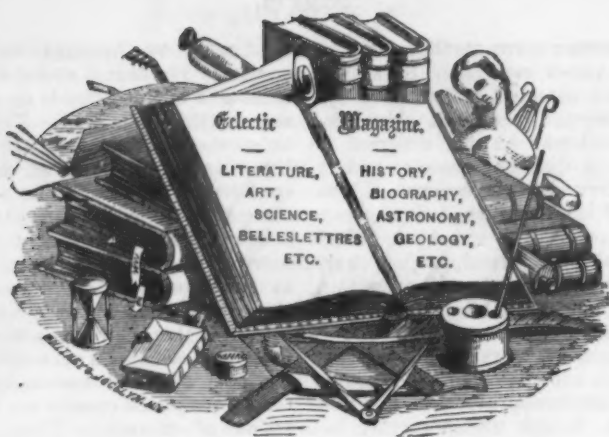
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# Eclectic Magazine

OF

FOREIGN LITERATURE, SCIENCE, AND ART.

New Series,  
Vol. XXXVI., No. 6.

DECEMBER, 1882.

{ Old Series Com-  
plete in 63 vols.

COMETS.

BY RICHARD A. PROCTOR.

DURING the last two years several comets—some telescopic, others visible to the naked eye, and even conspicuous objects in the heavens—have been observed, not only by the older methods, but by some which have only been available within recent years. It is naturally expected, therefore, by the general public that some new light should be thrown on these mysterious objects, whose phenomena still remain among the unexplained, seemingly the inexplicable, problems of the celestial depths.

We propose to consider here what has thus been learned, and what also (unfortunately it is much more) remains still to be learned, respecting comets. But first it will be well to show what are the special phenomena which present themselves for explanation.

A comet apparently comes out from the remote depths of space in a condition of comparative calm. It appears

as a small round nebulous object, looking like a tiny cloud of extreme tenuity—the idea of tenuity being suggested by the exceeding faintness of the comet's light. This cloud appears somewhat condensed toward the middle. As the comet draws nearer to the sun, it usually grows somewhat long in the direction of the sun; and before long a portion within the part nearest the sun is seen to be brighter than the rest, and to have a more or less defined outline. This is the *nucleus*—sometimes seen as a dull disk of nearly uniform brightness, at others as a mere bright point, not unlike a star. The fainter light around this is the *coma*, or hair, which resembles a luminous fog round the nucleus, usually brighter on the side toward the sun, and on the other side growing fainter and fainter till it can no longer be seen. Later this lengthening of the comet in directions toward and from

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the sun becomes more marked, until at length the comet may fairly be said to have a head directed toward the sun and a tail directed from him. Nucleus, coma, and tail may be very different in appearance in different comets, and in particular the tail may be more or less complicated in structure, being sometimes a mere straight streak, at others twofold, multiple, curved, with thwart streaks, and so forth—no two comets, in fine, having tails resembling each other except in general details.

Dr. Huggins, in a rather disappointing article on comets, recently communicated to a contemporary, remarks that the nucleus, though an apparently insignificant speck, "is truly the heart and kernel of the whole thing—potentially it is the comet." This has scarcely yet been proved, though it appears exceedingly probable. It is true, however, as he adds, that this part only of the comet conforms rigorously to the laws of gravitation, and moves strictly in its orbit. "If we could see a great comet," he proceeds, "during its distant wanderings, when it has put off the gala trappings of perihelion excitement, it would appear as a very sober object, and consist of little more than nucleus alone." This again seems probable, though it has never yet been proved, and the division of some comets into two or more parts, each having coma, nucleus, and tail of its own, shows that the nucleus cannot be, in every case, what Dr. Huggins seems here to suggest. Dr. Huggins has done well in saying (though scarcely with sufficient emphasis, considering how often the mistake is repeated) that "though many telescopic comets are of extremely small mass, nucleus included—so small, indeed, that they are unable to perturb such small bodies as Jupiter's satellites—yet we should mistake greatly if we were to suppose that all comets are 'airy nothings.' In some large comets the nucleus may be a few hundred miles in diameter, or even very much larger, and may consist of solid matter. It is not necessary to say that the collision of a cometary nucleus of this order with the earth would produce destruction on a wide scale."

It is even more necessary to correct the widely-spread misapprehension as to

the relations between meteors and comets. We hear it stated that the nucleus of a comet is made up of meteoric stones (Professor P. G. Tait says—for unknown reasons—that they resemble "paving-stones or even bricks") as confidently as though the earth had at some time passed through the nucleus of a comet, and some of our streets were now paved with stones which had fallen to earth on such an occasion. As a matter of fact, all that has yet been proved is that meteoric bodies follow in the track (which is very different from the tail) of some known comets, and that probably all comets are followed by trains of meteors. These may have come out of the head or nucleus in some way as yet unexplained; but it is by no means certain that they have done so, and it is by many astronomers regarded as more than doubtful.

The most important points to be noticed in the behavior of large comets, as they approach the sun, is that usually the side of the coma which lies toward the sun is the scene of intense disturbance. Streams of luminous matter seem to rise continually toward the sun, attaining a certain distance from the head, when, assuming a cloud-like appearance, they seem to form an envelope around the nucleus. This envelope gradually increases its distance from the sun, growing fainter and larger, while within it the process is repeated, and a new envelope is formed. This in turn ascends from the nucleus, expanding as it does so, while within it a new envelope is formed. Meanwhile, the one first formed has grown fainter, perhaps has disappeared. But sometimes the process goes on so rapidly (a day or two sufficing for the formation of a complete new envelope) that several envelopes will be seen at the same time, the outermost faintest, the innermost most irregular in shape and most varied in brightness, while the envelope or envelopes between are the best developed and most regular.

The matter raised up in these envelopes seems to have undergone a certain change of character, causing it no longer to obey the sun's attractive influence, but to experience a strong repulsive action from him, whereby it is apparently swept away with great rapidity to form the tail. "It flows past the nucleus,"

says Dr. Huggins, "on all sides, still ever expanding and shooting backward until a tail is formed in a direction opposite to the sun. This tail is usually curved, though sometimes rays or extra tails sensibly straight are also seen." The description is, however, incomplete in one important respect. The matter raised from the nucleus to form the envelopes may be, and probably is, carried past the nucleus *on all sides*; but the appearance presented by the tail just behind the nucleus is not exactly in accordance with our ideas as to what should result from the flowing past "on all sides." There is a dark space immediately behind the nucleus, that is, where the nucleus, if solid, would throw its shadow, if there were matter to receive the light all round so that the shadow could be seen. Now it may be thought at first that this corresponds exactly with what should be seen: when we look just behind the nucleus there is no light, or very little; when we look on either side of that dark space there is the luminous matter which has been driven back from the envelopes in front of the nucleus. But if the luminous matter flows past the nucleus on all sides, it must flow past the nucleus on the side nearest to the observer, and also on the side farthest away; and it is just where the line of sight passes through these two regions of brightness that a dark streak is seen just behind the nucleus. Let the reader draw two concentric circles—one an inch in diameter, the other two inches—and let him then draw two parallel tangents to the inner circle on opposite sides of it. Supposing now the space between the two circles to represent in section the luminous matter which flows all round the nucleus, while the surface of the inner circle represents the unilluminated part behind the nucleus, the two tangent lines will represent the lines of sight on either side of the dark region, where, as we might expect, we get plenty of light; and we can also understand very well why outside of that the line of sight through the luminous matter (or the chords to our outer circle), getting shorter and shorter, the light of the luminous streaks bounding this part of the tail gets fainter and fainter: but if just inside either of the two tangents,

chords are drawn parallel to them, crossing the inner circle, the parts of these chords which lie between the two circles are very nearly equal in length to the tangent lines themselves; and even a common diameter to both circles has, lying between them, two portions together equal to the radius of the outer. Hence, since the line of sight even across the middle of the space behind the nucleus, passes through a considerable range of luminous matter, while a line within but near the outskirts of that space passes through nearly as great a range of luminous matter as one just outside that space, there should be plenty of light where yet to the eye there seems to be something like absolute darkness. Either then the eye is greatly deceived, or else we must find some explanation of darkness existing where considerable brightness might be expected.\*

The matter which forms the tail seems, as I have said, to be swept off from the envelopes raised by the sun's action on the nucleus. It seems as though the matter thus raised had undergone in some way a change of character, which caused it no longer to obey the law of gravity as it had done when forming part of the nucleus, but instead of yielding to the sun's attraction to submit rather to an intense repulsive action, carrying it at a much greater rate from the sun than, under the action of gravity—starting from rest and free from all perturbing influences—it could have been drawn toward him. Dr. Huggins thus words his account of what

\* If the careful examination of satisfactory photographs should seem to show that the darkness (almost blackness) behind the nucleus is an objective and not merely a subjective phenomenon, the following explanation would seem forced upon us. If the particles forming the envelopes are minute flat bodies, and if anything in the circumstances under which these particles are driven off into the tail causes them to always so arrange themselves that the planes in which they severally lie pass through the axis of the tail (which, if the tail is an electrical phenomenon, might very well happen) then we should find the region behind the nucleus very dark or almost black, for the particles in the direction of the line of sight then would be turned edgewise toward us, whereas those on either side or in the prolongation of the envelopes would turn their faces toward the observer.

seems to happen—"Now is seen to take place a change which is most puzzling—namely, these envelopes of light appear to give up their substance under the influence of a strong repulsive force exerted from the sun and to be forced backward." Sir John Herschel, after his long and careful study of the comet of 1830 (Halley's at its second return), came to the conclusion that repulsive action exerted by the sun on the matter raised in these envelopes had been distinctly proved.

Yet here, where we seem to have our first firm ground for hypothesis respecting these mysterious objects—comets' tails—we meet with stupendous difficulties. Consider, for instance, the phenomena presented by Newton's comet. That comet had traversed the last 90,000,000 of miles of its approach toward the sun in four weeks. At the end of that time it passed out of view for a few days, having then a tail 90,000,000 of miles, at least, in length. Four days passed, and it reappeared on the other side of the sun—having in the interval traversed nearly a semicircle—in reality, of course, the perihelion end of its long oval path. At its reappearance, it had a tail still 90,000,000 of miles in length, but the tail with which it reappeared had, of course, a direction entirely different from that of the tail which had been seen before—the two directions were inclined about 160 degrees to each other. Now, as Sir John Herschel remarks, we cannot look on the tail of a comet as something whirled round like a stick, as the comet circles around its perihelion sweep. The tail with which the comet reappeared must have been an entirely new formation. Nor can we doubt that if the comet could have been watched as it swept around the sun, the changes in the tail's position which had been observed to the time of disappearance would have been observed to progress continuously, the tail passing by a uniform motion from the position it then had to that which it was observed to have at the time of reappearance. So that we may fairly suppose the tail with which the comet reappeared to have been formed in much less than the time during which the comet had been out of sight. Probably its farthest part had been formed

in much less than a day, the part near the head being, of course, formed later. But if the matter repelled from the head was thus driven over a distance of 90,000,000 miles in twenty-four hours, at the outside, the average velocity of its motion was about a thousand miles per second, or nearly three times as great as the greatest velocity which the sun can communicate by his attractive energy to matter approaching him from without, even though such matter come to him from an almost infinite distance, and in a perfectly straight line—the conditions most favorable for giving a high rate of final velocity. Such velocity as the sun *can* thus give by his attractive energy is only given to matter which has been exposed a long time to his influence: but here, in the tail of the great comet of 1680, matter seems to have acquired almost instantaneously a velocity sufficing to carry it over 90,000,000 miles with an average speed three times as great as the sun can thus, after long effort, communicate by means of his attractive power!

The difficulty is so great that many efforts—some bold and daring, others positively wild in the unscientific absurdity of their nature—have been made to overcome it.

Among the most ingenious of these is (or rather was, for I think it is no longer maintained even by its eminent author) Professor Tyndall's theory of a comet's tail as an actinic cloud, generated by the passage of the solar rays through exceedingly tenuous matter after those rays had been in part deprived of their heating power, during their passage through the comet's head. According to this theory the actinic cloud cannot be formed under the heating rays, but so soon as the actinic rays fall on the tenuous matter alone, the cloud is formed—so that all round the region in which would be the comet's shadow there is no luminous cloud, while along that region the cloud exists. The rapidity with which light travels would of course make this explanation absolutely perfect in explaining cometic tails lying always exactly in a straight line directed from the sun, or with their axis so situated. But unfortunately this exceedingly rapid formation of the tail (a tail of 90,000,000 miles in length would



be formed in about eight minutes) is more than observation requires or can explain. Professor Tyndall made a slight oversight in dealing with this part of his theory. Noticing that the actinic cloud, as he called it, is not formed instantly, but after a delay of a few seconds, in his experiments, he reasoned as though it would follow from this that the formation of the actinic cloud behind a comet's head in space might be a process extending its action in distance from the head at a rate considerably less than that at which light travels, yet still fast enough to account for the exceedingly rapid formation of the tail of Newton's comet, and of other similar tails. But a little consideration will show that the few seconds following the fall of light on the vapors dealt with by Tyndall, before the luminous cloud appeared, would produce no such effect as he imagined. The rate of formation of the tail would still be that at which light travels. Imagine the head at A, for the sake of argument, and the sun's light after reaching A, passing on to B, C, D, E, etc., to Z, a distance say of 100,000,000 miles, in nine minutes :

A . . B . . C . . D . . E . . . . Z

Suppose that, when the light has reached the vaporous matter lying at B, an interval of one full minute (much greater than any noticed in Tyndall's experiments) occurs before the actinic cloud comes into view, a similar interval after the light has passed C before the cloud is seen there, and so on, up to the time of the arrival of the light at Z. Professor Tyndall's reasoning implied that all the time intervals thus occurring at B, C, D, E, etc., up to Z, had to be added together, to give the total time of the formation of the tail from A to Z, and hence naturally a long time might elapse, and the head having at the end of this time reached a different position from that which it had occupied at the beginning, the divergence of the tail from the direction exactly opposite to the sun, and the curvature of the tail, would be alike readily accounted for. But what are the actual facts of the case. The part of the tail formed latest by the supposed solar actinic action, namely, the part at Z, would be formed just nine minutes after the light had

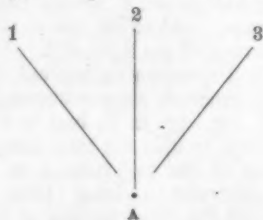
left A, and ten minutes after the part nearest to A had been formed (by the same light waves), for, nine minutes after leaving A, the light would be at Z, and a minute after each epoch (according to our supposition) the actinic cloud would be formed respectively at A and at Z. We get just the same interval—nine minutes—whether the actinic cloud appears immediately after light has traversed the vapor which is to form the cloud, or a minute after, or an hour after. In every case the tail would be formed outward from A, at the rate at which light travels. This does not accord with the phenomena—in fact, the supposition that a tail could be formed at the rate at which light travels will be found, on examination, to lead to many most manifest absurdities, which Professor Tyndall doubtless recognized when he sought escape from the supposition of such rapid tail formation, through the effects he attributed to the delayed appearance of the actinic cloud.

Another theory in explanation of the rapid formation of such a tail as that of Newton's comet is worthy of far less notice. Professor Tyndall's theory was based on an interesting physical fact, which he had himself discovered, and which was also manifestly akin in character to the formation of a comet's tail. The one to be now noticed was suggested to a mathematician by a rather familiar phenomenon, the effects of which on his imagination he seems to have been never able to entirely overcome—at any rate no amount of evidence against the theory seems to counterbalance in his mind the notion once conceived that the theory might be true. (It is a way some theorists have.)

Professor Tait was once looking at a part of the sky which seemed clear. As he looked, a long streak rapidly formed, which presently disappeared (if I remember his original description aright) almost as rapidly as it had formed. At any rate, the appearance of the streak was rapid enough to remind him of what astronomers said about the rapid (apparent) development of comets' tails. The phenomenon itself was easily explained. There had been a flight of seabirds, travelling after their wont in a widely extended layer, which when he began his observations had been looked

at somewhat aslant, so that—the distance being too great for the birds to be seen individually—nothing of the flight could be discerned at all. But it is evident that in such a case a very slight movement on the part of each bird would suffice so to shift the position of the layer in which they were travelling, that it would be seen edgewise, and then the birds, being so situated that the range of sight toward any part of the layer passed athwart a great number of them, would of course be seen, not individually but as a cloud, or long straight streak, a side view in fact of the layer in which they were travelling. *Eureka!* shouted Professor Tait; and presently announced to the world the marvellous theory that the rapid formation of comets' tails may be accounted for on the same general principle. Astronomers have found that along the tracks of some comets (where the tails never lie, by the way, but that is a detail) are countless millions of meteoric bodies separately undiscernible (and never yet discerned as a cloud—another detail); therefore it follows that the tails of all comets are formed by movements of "brickbats and paving-stones" in them (Professor Tait's own description of meteors), after the manner of the seabirds he saw from Arthur's Seat. Professor Thomson at the Edinburgh meeting of the British Association endorsed this theory with special reference to the value of the "seabird analogy" in explaining the phenomena of Newton's comet. Dr. Huggins, who, as he does not claim to be a mathematician (or, to speak more correctly, as his labors in physical research have not given him time for profound mathematical research), may be more readily excused, also speaks of this seabird theory as if it had some legitimate standing. "The tail, he conceives," he says, referring to Dr. Tait, "to be a portion of the less dense part of the train illuminated by sunlight, and visible or invisible to us, according, not only to circumstances of density, illumination, and nearness, but also of tactic arrangement, as of a flock of birds under different conditions of perspective." Of course, the theory is utterly untenable—by astronomers who know something of the actual facts, and have enough mathematics to consider

simple geometrical relations. Bodies moving in a plane surface like birds, if they individually travel in the same plane, keep its position unchanged. But if they move individually at an angle to that plane (as they occasionally do), they change its position—the surface, however, in which they collectively are at any moment still remaining plane. In such a case only could such a phenomenon as was observed by Professor Tait be seen. But in such a case the visibility of the streak formed by the flight of birds would last but a few minutes, for the same motion which had in a few minutes brought the streak into view would in the next few minutes take it out of view. During the short time that a flight is visible in this way, it has an unchanging position, or a scarcely changing one. If the tail of Newton's comet had rapidly formed and as rapidly vanished, remaining, while visible, in an almost unchanging position, the "seabird analogy" might explain that particular phenomenon, however inadequate to explain multitudes of others. But the phenomena to be explained are entirely different. Leaving out of the question the varying position and length of the tail as it approached the sun, and after it left the sun's neighborhood, all of which were entirely inconsistent with the seabird analogy, what we are called upon to explain is that a visible tail 90,000,000 of miles in length, seen in position 1A on one day,



was seen three days later in position 3A (having manifestly in the mean while passed through all the intermediate positions, including 2A). If Professor Tait, profound mathematician though he be, though he may "differentiate and integrate like Harlequin," can show how any flight of bodies, like or unlike seabirds, can accomplish such a feat as the above, appearing first to form a thin streak 1A, and in less than four days a

thin streak A3, each 90,000,000 of miles long, without *some* of them having had to travel a distance nearly equal to the line 1 to 3—or some 150,000,000 of miles long, instead of the trifling journeys he assigned them, he should take a rank above Newton and Laplace as a mathematician. But there is another feat, apparently equally difficult to him, which he might achieve very readily with great advantage to those non-mathematicians among astronomers whom his name—well deserved too—as a mathematician has hitherto misled, and with not less advantage to his own reputation: he might frankly admit that the idea which occurred to him while watching those unfortunate seabirds had not quite the value which at the moment he mistakenly attached to it, and has since *seemed* to do.

But apart from the consideration of theories such as those, either demonstrably untenable, though ingenious, like Professor Tyndall's, or altogether and obviously untenable like Professor Tait's, there are certain phenomena of comets' tails which force upon us the belief that they are phenomena of repulsion, though the repulsive action is of a kind not yet known to physicists.

Among these are:

1. The curvature of all the cometic tails when not seen from a point in or near the place of their motion.
2. The existence of more tails than one to the same comet, the different tails being differently curved.
3. The phenomena of striations athwart the tail.

It is evident that all these phenomena are such as we might fairly expect if a comet's tail is caused by the sun's repulsive action on molecules, raised by his heating action on the head. The matter thus swept away would resemble smoke, driven upward from the funnel of a moving steamer, and then swept in any given direction by a steady wind; we should see a curved train of such matter just as we see a curved streak of smoke. If the matter raised from the head is not all of one kind (and it is antecedently unlikely that it should be), there would be more than one trail of matter, if the sun's repulsive action were different on these different kinds of matter. Lastly, the striations seen

athwart the tail, as in the well-known case of Donati's great comet, would be explained, either as due to the observed pulsational manner in which the envelopes are raised (if matter were raised uniformly from the head there could be no formation of successive envelopes), or else as due to the carrying off into the main tail, where alone such striations are seen, of matter which, had it freed itself at the beginning, would have been swept off into the smaller tails, but being as it were entangled in the great outflow of matter forming the large tail, escapes later, and when it does, gets swept off at its own more rapid rate, and there forms a streak lying at an angle with the direction of the principal tail.

Bredichin has shown that where there are three tails to a comet, their forms correspond with the theory that the envelopes raised from the head are principally formed of hydrogen, carbon, and iron. But this, which, if established, would be the most important physical discovery yet made respecting comets, seems open at present to considerable doubt, though confirmation seems to be given to it, in some respects, by the results of spectroscopic analysis.

To spectroscopic analysis we must in all probability look for such information respecting comets as may hereafter enable us to understand their nature. On this point let us consider what is said by one who, if not the greatest living astronomical spectroscopist, is *facile princeps* in this country—Dr. W. Huggins. First, however, we must consider the past of this method of research as applied to comets.

The first successful application of the spectroscope to comets was made by Donati in 1864—the light of the comet being then divided into three bright bands, whose position, however, was not exactly determined. In 1866 Dr. Huggins obtained two kinds of light from a telescopic comet, part of the comet's light giving a continuous spectrum, probably reflected sunlight, the other a spectrum of three bands. In 1868 a comet was observed (Brorsen's) with more success. Three bands were seen in the spectrum of the light from the comet's head, and a comparison of these with measures of similar bright bands

belonging to the spectra of various combinations of carbon, showed, or rather seemed to suggest, that "combinations of carbon might be present in the comet."

"In conjunction with my friend, the late Dr. W. Allen Miller," says Dr. Huggins, "I confronted directly with the spectroscope attached to the telescope, the comet's light with that from inductive sparks passing in olefiant gas. The sensible identity of the two spectra left no doubt of the essential oneness of the cometary stuff with the gas composed of carbon and hydrogen that was employed for comparison." "Since that time," proceeds Dr. Huggins, "the light from some twenty comets has been examined by different observers. The general close agreement in all cases, notwithstanding some small divergences, of the bright bands in the cometary light with those seen in the spectra of hydrocarbons, justifies us fully in ascribing the original light of these comets to matter which contains carbon in combination with hydrogen."

Last year photography was applied to this spectroscopic work. The spectrum of the brightest comet of that year was partly continuous, and on this continuous spectrum many of the well-known Fraunhofer lines could be traced. This made it certain that part of the comet's light was reflected suns light; though Dr. Huggins considers also that a part of the continuous spectrum of every comet is due to inherent light. On this point some doubt may be permitted. It is one thing for special bands to show themselves, for some substances may become self-luminous under special conditions at very moderate temperatures; it is quite another thing that the solid parts of a comet's substance should become incandescent. I venture to express my own belief that this can scarcely happen except in the case of comets which approach very near to the sun. Besides the continuous spectrum with dark lines, the photograph showed also a spectrum of bright lines.

"These lines," says Dr. Huggins, "possessed extreme interest, for there was certainly contained within this hieroglyphic writing some new information. A discussion of the position of these new lines showed them to be undoubtedly the same lines which appear in certain compounds of carbon. Not long before, Professors Liveing and Dewar had found from their laboratory experiments that these lines are only present when nitrogen is also present, and that they indicate a nitrogen compound of carbon—namely, cyanogen. Two other bright groups were also seen in

the photograph, confirming the presence of hydrogen, carbon, and nitrogen."

It is worthy of notice that, only a few days later, Dr. H. Draper succeeded in obtaining a photograph of the same comet's spectrum. It appeared to him to confirm Dr. Huggins's statements, except only that the dark Fraunhofer lines were not visible—the photograph having probably been taken under less favorable conditions.

So far, then, it seems clear that comets shine in part by reflecting sunlight, partly with light of their own; the part of the cometic substance which certainly shines with its own light is gaseous, and this gas in most comets "contains carbon, hydrogen, and nitrogen, possibly also oxygen, in the form of hydrocarbons, cyanogen, and possibly oxygen compounds of carbon."

But the latest comet has brought with it fresh news. Its spectrum is not like that given by the comets we have been considering. The bright lines of sodium are seen in it, and also other bright lines and groups of lines, which have not yet been shown to be identical with any belonging to the hydrocarbon groups, but probably are so. Dr. Huggins's photograph shows, he considers, "that the original light of the comet, which gives a continuous spectrum (he means that portion of the original light which does so), was too strong to allow of the Fraunhofer lines being recognized in the reflected solar light." We demur to this as being *shown*, it may fairly be said to be *suggested*. The cyanogen groups are not seen.

Such is Dr. Huggins's account; but it is manifest that this comet underwent important changes, of which—we are surprised to note—Dr. Huggins has taken no account. Thus, in April, Professors Tacchini and Vogel found simply a faint continuous spectrum. In May, Vogel found that the three bands associated with carbon were present, though faint, while there was no trace whatever of the sodium band. On the contrary, on the nights of June 4, 5, and 7, Dr. B. Hasselberg, of the Observatory of Pulkowa, found that the nucleus of the comet gave a very strong and extended continuous spectrum, with an "excessively strong" bright line in the orange yellow, proved by



micrometrical measurement to be identical with the D line—the well-known double sodium line of the solar spectrum. The observation was confirmed by Dunér, Bredichin, and Vogel. On this Mr. Hind remarks, "It is necessary to conclude that, during the last fortnight of May, the spectrum of Wells's comet had changed in a manner of which the history of science furnishes no precedent." It must, however, be remembered that as yet no comets have been examined under sufficiently favorable conditions, to enable us to say whether the change thus observed was really exceptional, or only exceptional in being for the first time noted. Whenever such a comet as Donati's comes favorably under spectroscopic scrutiny, we shall probably learn something about these changes which will throw more light than anything yet discovered on the physical economy of these mysterious bodies.

What, then, do we know certainly respecting comets? What may we surmise with more or less probability? And in what direction may we look with most hope for future information? We know certainly that, in whatever way they are formed, the sun excites intense disturbance in them as they approach him. Professor Stokes remarks that these effects, so much greater at a first view than we might fairly expect in the case of many of the comets observed, which have approached the sun no nearer than our own earth does, or not so near, may be accounted for by the circumstance that comets travel in what must be regarded as, to all intents and purposes, a vacuum. From Dr. Crooke's experiments on very high vacua we may infer that there is very little loss of heat, except by radiation. Thus the heat received by the meteoric components of a comet would be much greater than might otherwise be expected. Dr. Huggins mentions, in the same connection, the remarkable persistence of the bright trains of meteors in the rare upper air, which sometimes remain visible for three quarters of an hour before the light fades, as the heat is gradually radiated away. "Our reasoning on these points," he remarks, in his dry way, "would undergo considerable modification if we accept the views as to

the condition of interplanetary space and of the sun's action which have been recently suggested by Dr. Siemens in his solar theory"—but of course we do not.

Bredichin's researches, showing that three distinct curvatures in comets' tails correspond to the winnowing out by solar repulsive action of (1) hydrogen, (2) carbon, and (3) iron, seem worthy of careful study and investigation. It accords well with spectroscopic evidence as to the condition of the matter raised in gaseous form from the nucleus; and if as yet we have had no direct spectroscopic evidence of the existence of iron in comets, we know that meteors are closely connected with comets, and that many meteors contain iron. Moreover, as unexpected spectroscopic evidence of the presence of the substance sodium, common in so many meteors, has been found in the case of one comet, we may fairly hope that under yet more favorable conditions, the presence of iron also may be recognized in the same way.

How far electricity may be looked to for an explanation of cometic phenomena, is a doubtful point among astronomers and physicists. For my own part, I must confess I share the strong objections which many physicists have expressed against the mere vague suggestion that perhaps *this* is an electrical phenomenon, perhaps *that other feature* is electrical too, perhaps *all or most* of the phenomena of comets depend on electricity. It is so easy to make such suggestions, so difficult to obtain evidence in their favor having the slightest scientific value. Still I hold the electrical idea to be well worth careful study. Whatever credit may hereafter be given to any electrical theory of comets, will be solely and entirely due to those who may help to establish it upon a basis of sound evidence—none whatever to the mere suggestion, which has been made time and again since it was first advanced by Fontenelle. Dr. Huggins says that he finds there is a rapidly growing feeling among physicists that both the inherent light (which he prefers to call the self-light) of comets and the phenomena of their tails belong to the order of electrical phenomena. An American astronomer recently wrote to him, as to

American views of the self-light of comets, "I cannot speak with authority for any one but myself; still I think the prevailing impression among us is that this light is due to an electric, or, if I may coin the word (far better not), 'an electric-oid action of some kind.'" On this Dr. Huggins himself remarks:

"The spectroscopic results fail to give conclusive evidence on this point; still, perhaps, upon the whole, especially if we consider the photographs of last year, the teachings of the spectroscope are in favor of the view that the self-light of comets is due to electric discharges. Those who are disposed to believe that the truth lies in this direction, differ from each other in the precise modes in which they would apply the known laws of electric action to the phenomena of comets. Broadly, the different applications of principles of electricity which have been suggested, group themselves about the common idea, that great electrical disturbances are set up by the sun's action in connection with the vaporization of some of the matter of the nucleus, and that the tail is probably matter carried away, possibly in connection with electric discharges, under an electrical influence of repulsion exerted by the sun. This view necessitates the supposition that the sun is strongly electrified, either negatively or positively, and, further, that in the processes taking place in the comet, either of vaporization or of some other kind, the matter thrown out by the nucleus has become strongly electrified in the same way as the sun—that is, negatively if the sun's electricity is negative, or positively if the sun's is positive. The enormous disturbances which the spectroscope shows to be always at work in the sun must be accompanied by electrical changes of equal magnitude, but we know nothing as to how far these are all, or the great majority of them, in one direction, so as to cause the sun to maintain permanently a high electrical state, whether positive or negative."

Unless some such state of things exists, Sir John Herschel's statement, "That this force" (the repulsive force forming the tail) "cannot be of the nature of electric or magnetic forces," must be accepted, for, as he points out, "the centre of gravity of each particle would not be affected; the attraction on one of its sides would precisely equal the repulsion on the other." Repulsion of the cometary matter could only take place if this matter, after it has been driven off from the nucleus and the sun, have both high electric potentials of the same kind. Further, it is suggested that luminous jets, streams, halos, and envelopes belong to the same order of phenomena as the aurora, the electrical brush, and the stratified discharges of exhausted tubes.

All this, it will be noticed, is at present merely hypothetical. It is, however, worthy of notice that *outside* of electricity there is nothing known to physicists which seems to afford even a promise of explanation, so far at least as the grander and more striking (also the most mysterious) of cometic phenomena are concerned. It may well be that with our advancing knowledge of meteors and meteor systems, the spectroscopic analysis of the next few comets of the larger and completer types—comets like Donati's comet, the great comet of 1811, and the comet of 1861—may throw unexpected light on mysteries which still remain among the most profound and unpromising problems presented to modern science.—*Contemporary Review*.

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#### AN EDITOR'S VALEDICTORY.

BY JOHN MORLEY.

THE present number of the Review marks the close of a task which was confided to me no less than fifteen years ago—*grande mortalis ævi spatium*, a long span of one's mortal days. Fifteen years are enough to bring a man from youth to middle age, to test the working value of convictions, to measure the advance of principles and beliefs, and, alas, to cut off many early associates and to extinguish many lights. It is hardly possible that a Review should

have been conducted for so considerable a time without the commission of some mistakes; articles admitted which might as well have been left out, opinions expressed which have a crudish look in the mellow light of years, phrases dropped in the heat or hurry of the moment which one would fain obliterate. Many a regret must rise in men's minds on any occasion that compels them to look back over a long reach of years. The disparity between aim and performance,

the unfulfilled promise, the wrong turnings taken at critical points—as an accident of the hour draws us to take stock of a complete period of our lives, all these things rise up in private and internal judgment against anybody who is not either too stupid or too fatuously complacent to recognize facts when he sees them. But the mood passes. Ephemera must not take themselves too seriously. Time, happily, is merciful, and men's memories are benignly short.

More painful is the recollection of those earlier contributors of ours who have vanished from the world. Periodical literature is like the manna in the wilderness; it quickly loses its freshness, and to turn over thirty volumes of old Reviews can hardly be exhilarating at the best; least of all so when it recalls friends and coadjutors who can give their help no more. George Henry Lewes, the founder of the Review, and always cordially interested in its fortunes, has not survived to see the end of the reign of his successor. His vivacious intelligence had probably done as much as he was competent to do for his generation, but there were other important contributors, now gone, of whom this could not be said. In the region of political theory, the loss of J. E. Cairnes was truly lamentable and untimely. He had, as Mill said of him, "that rare qualification among writers on political and social subjects—a genuine scientific intellect." Not a month passes in which one does not feel how great an advantage it would have been to be able to go down to Blackheath, and discuss the perplexities of the time in that genial and manly companionship, where facts were weighed with so much care, where conclusions were measured with such breadth and comprehension, and where even the great stolid idols of the Cave and the Market Place were never too rudely buffeted. Of a very different order of mind from Cairnes, but not less to be permanently regretted by all of us who knew him, was Mr. Bagehot, whose books on the English Constitution, on Physics and Politics, and the fragment on the Postulates of Political Economy, were all published in these pages. He wrote, in fact, the first article in the first number. Though himself extremely cool and sceptical

about political improvement of every sort, he took abundant interest in more ardent friends. Perhaps it was that they amused him; in return his good-natured ironies put them wholesomely on their mettle. As has been well said of him he had a unique power of animation without combat; it was all stimulus and yet no contest; his talk was full of youth, yet had all the wisdom of mature judgment (*R. H. Hutton*). Those who were least willing to assent to Bagehot's practical maxims in judging current affairs, yet were well aware how much they profited by his Socratic objections, and knew, too, what real acquaintance with men and business, what honest sympathy, and what serious judgment and interest lay under his playful and racy humor.

More untimely, in one sense, than any other was the death of Professor Clifford, whose articles in this Review attracted so much attention, and I fear that I may add, gave for a season so much offence six or seven years ago. Cairnes was scarcely fifty when he died, and Bagehot was fifty-one, but Clifford was only four-and-thirty. Yet in this brief space he had not merely won a reputation as a mathematician of the first order, but had made a real mark on his time, both by the substance of his speculations in science, religion, and ethics, and by the curious audacity with which he proclaimed at the pitch of his voice on the house-tops religious opinions that had hitherto been kept among the family secrets of the *domus Socratica*. It is melancholy to think that exciting work, done under pressure of time of his own imposing, should have been the chief cause of his premature decline. How intense that pressure was the reader may measure by the fact that a paper of his on *The Unseen Universe*, which filled eighteen pages of the Review, was composed at a single sitting that lasted from a quarter to ten in the evening till nine o'clock the following morning. As one revolves these and other names of eminent men who actively helped to make the Review what it has been, it would be impossible to omit the most eminent of them all. Time has done something to impair the philosophical reputation and the political celebrity of J. S. Mill; but it cannot alter the affectionate mem-

ory in which some of us must always hold his wisdom and goodness, his rare union of moral ardor with a calm and settled mind. He took the warmest interest in this Review from the moment when I took it up, partly from the friendship with which he honored me, but much more because he wished to encourage what was then—though it is now happily no longer—the only attempt to conduct a periodical on the principles of free discussion and personal responsibility. While recalling these and others who are no more, it was naturally impossible for me to forget the constant and valuable help that has been so freely given to me, often at much sacrifice of their own convenience, by those friends and contributors who are still with us. No conductor ever laid down his *bâton* with a more cordial and sincere sense of gratitude to those who took their several parts in his performance.

One chief experiment which the Review was established to try was that of signed articles. When Mr. Lewes wrote his Farewell Causerie, as I am doing now, he said: "That we have been enabled to bring together men so various in opinion and so distinguished in power has been mainly owing to the principle adopted of allowing each writer perfect freedom; which could only have been allowed under the condition of personal responsibility. The question of signing articles had long been debated; it has now been tested. The arguments in favor of it were mainly of a moral order; the arguments against it, while admitting the morality, mainly asserted its inexpediency. The question of expediency has, I venture to say, been materially enlightened by the success of the Review." The success of other periodicals, conducted still more rigorously on the principle that every article ought to bear its writer's signature, leaves no further doubt on the subject; so that it is now almost impossible to realize that only fifteen or sixteen years ago scarcely anybody of the class called practical could believe that the sacred principle of the Anonymous was doomed. One of the shrewdest publishers in Edinburgh, and also himself the editor of a famous magazine (the color of whose Toryism, by the way, is

almost of itself enough to explain why a sensible country like Scotland is so intensely Liberal), once said to me while Mr. Lewes was still editor of this Review, that he had always thought highly of our friend's judgment "until he had taken up the senseless notion of a magazine with signed articles and open to both sides of every question." Nobody will call the notion senseless any longer. The question is rather how long the exclusively anonymous periodicals will resist the innovation.

Personally I have attached less stern importance to signature as an unvarying rule than did my predecessor; though even he was compelled by obvious considerations of convenience to make his chronicle of current affairs anonymous. Our practice has been signature as the standing order, occasionally suspended in favor of anonymity when there seemed to be sufficient reason. On the whole it may be said that the change from anonymous to signed articles has followed the course of most changes. It has not led to one half either of the evils or of the advantages that its advocates and its opponents foretold. That it has produced some charlatanry, can hardly be denied. Readers are tempted to postpone serious and persistent interest in subjects, to a semi-personal curiosity about the casual and unconnected deliverances of the literary or social "star" of the hour. That this conception has been worked out with signal ability in more cases than one; that it has made periodical literature full of actuality; that it has tickled and delighted the palate—is all most true. The obvious danger is lest we should be tempted to think more of the man who speaks than of the precise value of what he says.

One indirect effect that is not unworthy of notice in the new system is its tendency to narrow the openings for the writer by profession. If an article is to be signed the editor will naturally seek the name of an expert of special weight and competence on the matter in hand. A reviewer on the staff of a famous journal once received for his week's task, "General Hamley on the Art of War," a three-volume novel, a work on dainty dishes, and a translation of Pindar.



This was perhaps taxing versatility and omniscience overmuch, and it may be taken for granted that the writer made no serious contribution to tactics, cookery, or scholarship. But being a man of a certain intelligence, passably honest, and reasonably painstaking, probably he produced reviews sufficiently useful and just to answer their purpose. On the new system we should have an article on General Hamley's work by Sir Garnet Wolseley, and one on the cookery-book from M. Trompette. It is not certain that this is all pure gain. There is something to be said for the writer by profession, who, without being an expert, will take trouble to work up his subject, to learn what is said and thought about it, to penetrate to the real points, to get the same mastery over it as an advocate or a judge does over a patent case or a suit about rubrics and vestments. He is at least as likely as the expert to tell the reader all that he wants to know, and at least as likely to be free from bias and injurious prepossession.

Nor does experience, so far as it has yet gone, quite bear out Mr. Lewes's train of argument that the "first condition of all writing is sincerity, and that one means of securing sincerity is to insist on personal responsibility," and that this personal responsibility can only be secured by signing articles. The old talk of "literary bravoos," "men in masks," "anonymous assassins," and so forth, is out of date. Longer experience has only confirmed the present writer's opinion, expressed here from the very beginning: "Everybody who knows the composition of any respectable journal in London, knows very well that the articles which those of our own way of thinking dislike most intensely, are written by men whom to call bravoos in any sense whatever would be simply monstrous. Let us say, as loudly as we choose, if we see good reason, that they are half informed about some of the things which they so authoritatively discuss; that they are under strong class feeling; that they have not mastered the doctrines which they are opposing; that they have not sufficiently meditated their subject; that they have not given themselves time to do justice even to their scanty knowledge. Jour-

nalists are open to charges of this kind; but to think of them as a shameless body, thirsting for the blood of better men than themselves, or ready to act as an editor's instrument for money, involves a thoroughly unjust misconception."

As to the comparative effects of the two systems on literary quality, no prudent observer with adequate experience will lay down an unalterable rule. Habit no doubt counts for a great deal, but apart from habit there are differences of temperament and peculiar sensibilities. Some men write best when they sign what they write; they find impersonality a mystification and an incumbrance; anonymity makes them stiff, pompous, and over-magisterial. With others, however, the effect is just the reverse. If they sign, they become self-conscious, stilted, and even pretentious; it is only when they are anonymous that they recover simplicity and ease. It is as if an actor who is the soul of what is natural under the disguises of his part, should become extremely artificial if he were compelled to come upon the stage in his own proper clothes and speaking only in his ordinary voice.

The newspaper press has not yet followed the example of the new Reviews, but we are probably not far from the time when here, too, the practice of signature will make its way. There was an unwise cry at one time for making the disuse of anonymity compulsory by law. But we shall no more see this than we shall see legal penalties imposed for publishing a book without an index, though that also has been suggested. The same end will be reached by other ways. Within the last few years a truly surprising shock has been given to the idea of a newspaper, "as a sort of impersonal thing, coming from nobody knows where, the readers never thinking of the writer, nor caring whether he thinks what he writes, so long as *they* think what he writes." Of course it is still true, and will most likely always remain true, that, like the Athenian Sophist, great newspapers will teach the conventional prejudices of those who pay for it. A writer will long be able to say that, like the Sophist, the

newspaper reflects the morality, the intelligence, the tone of sentiment, of its public, and if the latter is vicious, so is the former. But there is infinitely less of this than there used to be. The press is more and more taking the tone of a man speaking to a man. The childish imposture of the editorial *We* is already thoroughly exploded. The names of all important journalists are now coming to be as publicly known as the names of important members of parliament. There is even something over and above this. More than one editor—the editors of the *Spectator* and of the *St. James's Gazette* are conspicuous instances, in very different ways—have bodily aspired to create and educate a public of their own, and they have succeeded. The press is growing to be much more personal, in the sense that its most important directors are taking to themselves the right of pursuing an individual line of their own, with far less respect than of old to the supposed exigencies of party or the *communiqués* of political leaders. The editor of a Review of great eminence said to the present writer (who, for his own part, took a slightly more modest view) that he regarded himself as equal in importance to twenty-five members of parliament. It is not altogether easy to weigh and measure with this degree of precision. But what is certain is that there are journalists on both sides in politics to whom the public looks for original suggestion, and from whom leading politicians seek not merely such mechanical support as they expect from their adherents in the House of Commons, nor merely the uses of the vane to show which way the wind blows, but ideas, guidance, and counsel, as from persons of co-equal authority with themselves. England is still a long way from the point at which French journalism has arrived in this matter. We cannot count an effective host of Girardins, Lemoignes, Abouts, or even Cassagnacs and Rocheforts, each recognized as the exponent of his own opinions, and each read because the opinions written are known to be his own. But there is a distinctly nearer approach to this as the general state of English journalism than there was twenty years ago.

Of course nobody of sense supposes that any journalist, however independent and however possessed by the spirit of his personal responsibility, tries to form his opinions out of his own head, without reference to the view of the men practically engaged in public affairs, the temper of Parliament and the feeling of constituencies, and so forth. All these are part of the elements that go to the formation of his own judgment, and he will certainly not neglect to find out as much about them as he possibly can. Nor, again, does the increase of the personal sentiment about our public prints lessen the general working fidelity of their conductors to a party. It is their duty, no doubt, to discuss the merits of measures as they arise. In this respect any one can see how radically they differ from the Member of Parliament, whose business is not only to discuss but to act. The Member of Parliament must look at the effects of his vote in more lights than one. Besides the merits of the given measure, it is his duty to think of the wishes of those who chose him to represent them; and if, moreover, the effect of voting against a measure of which he disapproves would be to overthrow a whole Ministry of which he strongly approves, then, unless some very vital principle indeed were involved, to give such a vote would be to prefer a small object to a great one, and would meet a very queasy monkish sort of conscience. The journalist is not in the same position. He is an observer and a critic, and can afford, and is bound, to speak the truth. But even in his case, the disagreement, as Burke said, "will be only enough to indulge freedom, without violating concord or disturbing arrangement." There is a certain "partiality which becomes a well-chosen friendship." "Men thinking freely will, in particular instances, think differently. But still as the greater part of the measures which arise in the course of public business are related to, or dependent on, some great leading general principles in government, a man must be peculiarly unfortunate in the choice of his political company if he does not agree with them at least nine times in ten." The doctrine that was good

enough for Burke in this matter may be counted good enough for most of us. Some of the current talk about political independence is mere hypocrisy and *blague*; some of it is mere vanity. For the new priest of Literature is quite as liable to the defects of spiritual pride and ambition as the old priest of the Church, and it is quite as well for him that he should be on his guard against these scarlet and high-crested sins.

The success of Reviews, of which our own was the first English type, marks a very considerable revolution in the intellectual habits of the time. They have brought abstract discussion from the library down to the parlor, and from the serious student down to the first man in the street. We have passed through a perfect cyclone of religious polemics. The popularity of such Reviews means that really large audiences, *le gros public*, are eagerly interested in the radical discussion of propositions which twenty years ago were only publicly maintained, and then in their crudest, least true, and most repulsive form, in obscure debating societies and little secularist clubs. Everybody, male or female, who reads anything serious at all, now reads a dozen essays a year to show, with infinite varieties of approach and of demonstration, that we can never know whether there be a Supreme Being or not, whether the soul survives the body, or whether the soul is more and other than a mere function of the body. No article that has appeared in any periodical for a generation back excited so profound a sensation as Mr. Huxley's memorable paper "On the Physical Basis of Life," published in this Review in February, 1869. It created just the same kind of stir that, in a political epoch, was made by such a pamphlet as the "Conduct of the Allies or the Reflections on the French Revolution." This excitement was a sign that controversies which had hitherto been confined to books and treatises were now to be admitted to popular periodicals, and that the common man of the world would now listen and have an opinion of his own on the bases of belief, just as he listens and judges in politics, or art, or letters. The clergy no longer have the pulpit to themselves, for the new Reviews became

more powerful pulpits, in which heretics were at least as welcome as orthodox. Speculation has become entirely democratized. This is a tremendous change to have come about in little more than a dozen years. How far it goes, let us not be too sure. It is no new discovery that what looks like complete tolerance may be in reality only complete indifference. Intellectual fairness is often only another name for indolence and inconclusiveness of mind, just as love of truth is sometimes a fine phrase for temper. To be piquant counts for much, and the interest of seeing on the drawing-room tables of devout Catholics and high-flying Anglicans article after article, sending divinities, creeds, and Churches all headlong into limbo, was indeed piquant. Much of all this elegant dabbling in infidelity has been a caprice of fashion. The Agnostic has had his day with the fine ladies, like the black footboy of other times, or the spirit-rapper and table-turner of our own. When one perceived that such people actually thought that the Churches had been raised on their feet again by the puerile apologetics of Mr. Mallock, then it was easy to know that they had never really fallen. What we have been watching, after all, was perhaps a tournament, not a battle.

It would not be very easy for us now, and perhaps it would not be particularly becoming at any time, to analyze the position that has been assigned to this Review in common esteem. Those who have watched it from without can judge better than those who have worked within. Though it has been open, so far as editorial good-will was concerned, to opinions from many sides, the Review has unquestionably gathered round it some of the associations of sect. What that sect is, people have found it difficult to describe with anything like precision. For a long time it was the fashion to label the Review as Comtist, and it would be singularly ungrateful to deny that it has had no more effective contributors than some of the best-known disciples of Comte. By-and-by it was felt that this was too narrow. It was nearer the truth to call it the organ of Positivists in the wider sense of that designation. But even this would not

cover many directly political articles that have appeared in our pages, and made a mark in their time. The memorable programme of Free Labor, Free Land, Free Schools, Free Church had nothing at all Positivist about it. Nor could that programme and many besides from the same pen and others be compressed under the nickname of Academic Liberalism. There was too strong a flavor of action for the academic and the philosophic. This passion for a label, after all, is an infirmity. Yet people justly perceived that there seemed to be a certain undefinable concurrence among writers coming from different schools and handling very different subjects. Perhaps the instinct was right which fancied that it discerned some common drift, a certain pervading atmosphere. People scented a subtle connection between speculations on the Physical Basis of Life and the Unseen Universe, and articles on Trades Unions and National Education; and Professor Tyndall's eloquence in impugning the authority of miracles was supposed to work in the same direction as Mr. Frederic Harrison's eloquence in demolishing Prince Bismarck and vindicating the Commune as the newest proof of the political genius of France.

So far as the Review has been more specially identified with one set of opinions than another, it has been due to the fact that a certain dissent from received theologies has been found in company with new ideas of social and political reform. This suspicious combination at one time aroused considerable anger. The notion of anything like an intervention of the literary and scientific class in political affairs touched a certain jealousy which is always to be looked for in the positive and practical man. They think as Napoleon did of men of letters and savans: "Ce sont des coquettes avec lesquelles il faut entretenir un commerce de galanterie, et dont il ne faut jamais songer à faire ni sa femme ni son ministre." Men will listen to your views about the Unknowable with a composure that instantly disappears if your argument comes too near to the Rates and Taxes. It is amusing, as we read the newspapers to-day, to think that Mr. Harrison's powerful defence of Trades Unions fifteen years ago

caused the Review to be regarded as an incendiary publication. Some papers that appeared here on National Education were thought to indicate a deliberate plot for suppressing the Holy Scriptures in the land. Extravagant misjudgment of this kind has passed away. But it was far from being a mistake to suppose that the line taken here by many writers did mean that there was a new Radicalism in the air, which went a good deal deeper than fidgeting about an estimate or the amount of the Queen's contribution to her own taxes. Time has verified what was serious in those early apprehensions. Principles and aims are coming into prominence in the social activity of to-day which would hardly have found a hearing twenty years ago, and it would be sufficient justification for the past of our Review if some writers in it have been instrumental in the process of showing how such principles and aims meet the requirements of the new time. Reformers must always be open to the taunt that they find nothing in the world good enough for them. "You write," said a popular novelist to one of this unthanked tribe, "as if you believed that everything is bad." "Nay," said the other, "but I do believe that everything might be better." Such a belief naturally breeds a spirit which the easy-goers of the world resent as a spirit of ceaseless complaint, and scolding. Hence our Liberalism here has often been taxed with being ungenial, discontented, and even querulous. But such Liberals will wrap themselves in their own virtue, remembering the cheering apophthegm that "those who are dissatisfied are the sole benefactors of the world."

This will not be found, I think, too lofty, or too thrasonical an estimate of what has been attempted. A certain number of people have been persuaded to share opinions that fifteen years ago were more unpopular than they are now. A certain resistance has been offered to the stubborn influence of prejudice and use and wont. The original scheme of the Review, even if there had been no other obstacle, prevented it from being the organ of a systematic and constructive policy. There is not, in fact, a body of systematic political thought at work



in our own day. The Liberals of the Benthamite school, as was said here not many months ago,\* surveyed society and institutions as a whole; they connected their advocacy of political and legal changes with carefully formed theories of human nature; they considered the great art of Government in connection with the character of man, his proper education, his potential capacities. Yet, as we then said, it cannot be pretended that we are less in need of systematic politics than our fathers were sixty years since, or that general principles are now more generally settled even among members of the same party than they were then. The perplexities of to-day are as embarrassing as any in our history, and they may prove even more dangerous. The renovation of Parliamentary government; the transformation of the conditions of the ownership and occupation of land; the relations

between the Government at home and our adventures abroad in contact with inferior races; the limitations on free contract and the rights of majorities to restrict the private acts of universities; these are only some of the questions that time and circumstances are pressing upon us. These are in the political and legislative sphere alone. In Education, in Economics for realization in Literature, the problems are as many. Yet ideas are hardly ripe. We shall need to see great schools before we can make sure of powerful parties. Meanwhile, whatever gives freedom and variety to thought, and earnestness to men's interest in the world, must contribute to a good end. The Review has been an attempt to do something in this direction. I may well hope that the energy and intelligence of my successor will enable it to do more.—*Fortnightly Review*.

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#### SONGS WITHOUT WORDS.

BY DR. ANDREW WILSON.

I AM spending a lazy holiday at the edge of a wood, and find life under a summer sky and in a summer temperature endurable, but nothing more. I recline on a mossy bank, and if not exactly *sub tegmine fagi*—for the tree overhead is a sturdy oak—I can yet appreciate the coolness of the shadow-cast by the foliage above. A clear space in front allows the eye to wander at will over meadow-land and corn-field. Some idle cows, animated by like impulses to those which impel humanity, are congregated beneath the beeches in an adjoining meadow, and sweep with their tails the humming congregation of flies bent on annoying bovine existence, which placidly ruminates, insects notwithstanding. The humming of the flies forms well-nigh the only sound one can hear on this stillest of days, but now and then a rook overhead will adjudicate some domestic difficulty with a loud "caw," and after a circling flight will once more sink to rest in the bosom of his family. Now and then a sleepy

chirp reminds one of bird-existence above, but the laziness of living nature on a warm summer day is, to say the least of it, remarkable. In the thicket and apple-orchard beyond, I could find busy life in all its forms. I could show you my coleopterous friends the burying-beetles, hard at work interring the mouse that has come somehow or other to an untimely end; and to watch them toiling in their cuirassed jackets is a procedure exciting our sympathy much in the same way as you pity a fatigue-party of soldiers doing duty on a sweltering day. Bees, wasps, and flies, on their mission of pollen-distribution and flower-fertilization, are busy enough in their turn; but the heat is cogent argument against work, and, like the cows, one may profitably rest and ruminate.

To-day one's thoughts glance off at a tangent, excited by no very poetical stimulus perhaps, but by an incident which, however commonplace it may seem, nevertheless leads to the domain of the natural, and, I will add, is somewhat within the vein of poesy also. My stimulus has been the cawing of rooks,

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\* *Fortnightly Review*, April, 1882.  
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the humming of flies and bees, and the chirping of a grasshopper—also lazily inclined, if I may judge from the quiet and self-possessed manner in which it progresses between the grass-blades close by. From the hearing of such sounds, one's thoughts insensibly merge toward the diffusion of voice in lower life at large. The faint tinkle of a piano reaches my ear through the open window of the adjoining house. It is my hostess amusing herself with musical snatches, reveries, and reminiscences. Now it is a fragment of the last German waltz, musical, swinging, and so rhythmical that feet insensibly and automatically begin to describe imaginary circles, and the mind to conjure up visions of smooth waxed-floors, and gas-lights and whirling couples, keeping pace to the melody. Now, the waltz-phase has passed, and she strikes a sweeter chord. I should know these notes. Of course—the *Lieder ohne Worte*, most poetical of strains, wherein one can find sympathy and consolation for many troubles of body and mind, and from which one can weave words and phrases to suit the impassioned chords and the fleeting moods of the listener's mind. Just so. Mendelssohn has inspired me with a title at least. I shall take off the languor of laziness and hie me indoors; and while my good hostess is pleasing herself and unconsciously delighting me with Felix the divine, I will indite me a little article on the "Songs without Words" one may hear in halls with leafy canopies, and in cathedrals whose aisles are flanked by massive columns of gnarled stems, and whose roofs are formed by the blue vault of heaven itself.

In which classes of animals do we find sound to be produced in lower life? Such is a query not inappropriate in view of the nature and extent of the fields over which our inquiries may travel. Our starting-point will be found in the insects, and possibly, also, among the nearly related but zoologically distinct spiders. Upward we may travel through the mollusks, or shell-fish, without meeting with any distinct example of sound-producing organs. Arriving at the lowest confines of man's own sub-kingdom, we pass to the fishes, and find therein some few but notable

examples of sound-producing animals. The frogs, with a not unmusical croak—a sound expressive enough in ears which are open to hear—come next in order; and among the reptiles which succeed the frogs we find voice, it is true, but of indefinite type. Sweetest of all "songs without words" are those of the birds; and it is both curious and important to remark on the structural nearness of the birds to the reptiles—these two classes being related in a most intimate fashion in many points of structure and development. Above the birds come the quadrupeds, with voices high and low, for the most part unmusical and often harsh, but possessing as their crowning glory the songs with words of man. Thus we discover a wide field before us, in the investigation of the voices which speak in the unknown tongues of lower life. Let us see if the interest of the subject may be found to equal its extent.

There is little need, I apprehend, to preface our discussion with a discourse on elementary zoology, by way of informing readers that only in the vertebrates or highest group of animals do we meet with an approach to the vocal organs of man. Even in lower vertebrates themselves, as in many fishes, an organ of voice may be altogether wanting, and sounds, as we shall hereafter see, may be produced in fashions other than those in which man produces vocal sounds. What may have to be said of the voice of higher animals may be left for our after-consideration. We may begin our researches in a humbler vein, and investigate the "droning flight," the busy hum, and the lover's chirpings of insect life. We find a suitable text in the grasshoppers which chirp so loudly in the meadows around. A very curious order of insects is that which includes the grasshoppers, locusts, crickets, and earwigs as its chief representatives. They possess mouths adapted for biting, hinder wings which have straight ribs, and which are folded like fans, and, in the case of the first three insects, greatly elongated hind legs, conferring upon them a marvellous power of progressing by a series of leaps. As you hear the "cricket on the hearth" call to its mate, or the cricket of the field similarly attracting the

notice of Mrs. Grasshopper, you might well be tempted to believe that the insects possessed organs of voice analogous to those of higher animals. But the song of the cricket is truly one without words, inasmuch as it is produced by a mechanical process of mere friction, and not through any more elaborate mechanism, such as one expects to find in the vocal apparatus of higher life. It is well to remark that in all cases the specialized sounds emitted by insects are intended as "calls" to attract the notice of their mates. It is a notable fact that the female insects, in the majority of instances, do not possess the means for causing sounds, and when present in the latter this apparatus remains as a rule in an undeveloped condition. Aristotle of old was perfectly familiar with this fact as applied to the classic cicada; and a not over-gallant poet, Xenarchus, hailing from Rhodes, inspired possibly by the memories of many remonstrances from the female side of the house, seizes the naturalist's text, and declares—

Happy the Cicadas' lives,  
Since all voiceless are their wives.

An observation of Mr. Bates, in his "Naturalist on the Amazons," clearly shows the purpose served of the "stridulation"—as the faculty of producing sound is named in insects. A male field-cricket, like some gay troubadour, has been seen to take up his position at the entrance of his burrow in the twilight. Loud and clear sound his notes, until, on the approach of a partner, his song becomes more subdued, softer, and all-expressive in its nature, and as the captivated and charmed one approaches the singer she is duly caressed and stroked with his antennæ as if by way of commendation for her ready response to his love-notes. Thus insect courtship progresses much as in higher life, although, indeed, the siren-notes belong in the present case to the sterner sex, and thus reverse the order of things in higher existence.

The sound-producing apparatus in these insects consists of a peculiar modification of the wings, wing-covers, and legs. Thus the grasshopper's song is due to the friction produced by the first joint of the hind leg (or thigh) against

the wing-covers or first pair of wings—a kind of mechanism which has been aptly compared to a species of violin-playing. On the inner side of the thigh a row of very fine pointed teeth, numbering from eighty to ninety or more, is found. When the wing-covers or first wings are in turn inspected, their ribs or "nervures" are seen to be very sharp and of projecting nature, and these latter constitute the "strings," so to speak, of the violin. Both "fiddles" are not played upon simultaneously; the insect first uses one and then the other—thus practising that physiological economy which is so frequently illustrated by the naturalist's studies. Some authorities, in addition, inform us that the base of the tail in these insects is hollowed so as to constitute a veritable sounding-board, adapted to increase the resonance of the song. And this latter faculty is still more plainly exemplified in certain exotic insects allied to the grasshoppers; these foreign relations having the bodies of the males distended with air for the purpose of increasing and intensifying the sound. Again, while, as already remarked, it is the gentlemen-insects which produce the sounds, there exist a few cases in which the lady-insects appear to emulate the violin-playing instincts of their mates.

The locusts are perhaps the most notable singers of their order. The locust's song has been heard distinctly at night at a mile's distance from the singers. In North America the katydid (*Cyrtophyllus concavus*), a well-known species of locust, is so named from the peculiar sound of the song, which closely resembles the words "katy-did-she-did," and a writer describes this insect as beginning its "noisy babble" early in the evening as it perches on the upper branches of a tree, "while rival notes issue from the neighboring trees, and the groves resound with the call of *katy-did-she-did* the livelong night." In the locusts, the two front wings (or wing-covers, as they are called, from their function of protecting the hinder and serviceable wings) produce the song. The right wing is the fiddle, the left serving as the bow. A special rib on the under side of the latter is finely toothed, and is rubbed backward and

forward over the upper ribs of the right wing, thus producing the chirp. When the crickets are examined, the disposition of the wing-covers is seen to resemble that of the locusts, but with the difference that both wing-covers have the same structure, each being alternately used as violin and bow. Of the grasshopper tribe, the locusts have perhaps attained to the highest pitch of musical efficiency; the grasshoppers themselves come next in order, while the crickets are the least-specialized and most primitive of all. It is a most noteworthy observation that in this group of insects a special organ of hearing is developed, the production of hearing powers thus taking place contemporaneously with the perfection of the song. Organs of hearing have been certainly discovered only in the insects under consideration. By some naturalists, the antennæ or feelers, borne on the head, have been credited with the performance of this function, but this view is problematical at the best. In the grasshoppers the "ears" consist of two organs, somewhat resembling drums in general conformation. These are found at the attachments of the last pair of legs. In the cricket and locust the hearing organs are found on the fore-legs. Thus it is both curious and interesting to find that the development of sounds and the production of ears to hear have taken place together in this group of insects, which geologically may claim to be one of the most ancient of the insect class. And the fact in question best illustrates to us that correlation between the varied ways and means of life which is so continually exemplified by the researches of workers in science byways.

We stray in pastures classical and especially Anacreon-wise, when we endeavor to investigate the biography of the cicada, whose marital happiness in the possession of a silent partner has already been remarked. Says Anacreon of the cicada:

Thee, all the muses hail a kindred being;  
Thee, great Apollo owns a dear companion;  
Oh! it was he who gave that note of gladness,  
Wearisome never.

The Greeks of old delighted, and the Chinese to-day find pleasure, in the song of cicadas, imprisoned in cages like

birds; and as Kirby and Spence tell us, the emblem of music was a cicada sitting on a harp. This fashion of doing honor to the insect arose from the legend that Ennomus and Ariston, two rival Orpheuses, were contending for a prize in harp-playing. Ennomus broke a string of his harp during the competition, but a cicada, who, doubtless through a kindred interest in musical science, had been a spectator of the contest, flew to the instrument, and seating itself thereupon, supplied with its note the place of the missing string. Little can we wonder, of course, that Ennomus gained the prize in this legendary competition. The sound-producing apparatus of the cicada was formerly believed to consist of a special modification of the breathing-openings of these insects. The breathing organs of insects consist of a complicated arrangement of *tracheæ* or delicate air-tubes which ramify throughout their bodies and convey air literally to every portion of their frames. The air is admitted to this peculiar system of air-tubes by means of apertures placed on the sides of the body and named *spiracles*; these openings being capable of closure at the will of the insect—a matter of absolute necessity for its safety during the rapidity of flight. The cicada sings during the day, and almost solely when the sun shines brightly. Virgil himself remarks of the insect that it sings, "sole sub ardente," and of the tropical species Mr. Bates remarks that "one large kind, perched high on the trees around our little haven, set up a most piercing chirp; it began," continues our author, "with the usual harsh jarring note of its tribe, but this gradually and rapidly became shriller, until it ended in a long and loud note, resembling the steam whistle of a locomotive engine." Thus much by way of introduction to the cicada and its music.

Both sexes possess the musical apparatus, but that of the female is comparatively simple as compared with the "drum" of her mate, and is never used, as we have seen, for producing sounds. The apparatus in question is situated in the last joint of the cicada's chest and in the succeeding and front joints of its tail. Briefly described, the "drum" or "timbale" of the insect



consists of a tightly stretched membrane and other structures, capable of being affected, stretched, and otherwise manipulated, by certain muscles, along with certain cavities destined to increase the resonance of the notes; while we may not omit to mention the *spiracles* or breathing apertures as playing an important part in the production of the song. The drum is the song-producer, which, through its vibrations, gives origin to the characteristic sounds, and the accessory apparatus serves to increase the intensity of the notes. And the spiracles or breathing apparatus may be lastly noted to play an important part in this process, since they serve to maintain the necessary equilibrium between the external air, and the atmosphere imprisoned in the cavities already mentioned, as serving to increase and intensify the sounds. Abundant evidence testifies to the fact of the song of the cicada being used to allure the female insects, and voice is thus again witnessed as a means of courtship. Is there, after all, not a strong analogy betwixt the love-song and the low and tender accents of the lover's part as played by humanity, and the song of the cicada with its varying intonations and accents appealing as powerfully in favor of the attractive swain as in the world of thought and mind? And it seems, indeed, a laudable enough inference, not merely that rivalry in song is a stated and regular occurrence in cicada-life, but that, through such competition in voice, the weakest go to the wall, while the most musical insects come to the front in the "struggle for existence."

An array of mailed forms, including "the shard-borne beetle with his drowsy hum," next demands attention. In no beetle, and indeed in no other insects, do we meet with the perfection of vocalization seen in the grasshoppers and their relations. And with the beetle we approach more clearly to the region of "hums" and droning, and leave that of specialized sounds, such as we have been metaphorically hearing in the cicadas. To pass from the latter insects to the beetles, bees, flies, and their neighbors, appears to be a transition almost as wide as that between the articulate language or arithmetic of culture, and the scanty vocabulary of the savage or

the primitive mathematics of the tribe who can count ten as represented on their fingers and toes, but ask in amazement why there should be more things in the world. In the beetles the sound-producing organ is comparable to a kind of "rasp" which moves upon an adjoining surface. The site of the organ in question varies in different beetles. In some the rasps are situated on the upper surface of one or two of the tail-segments, and are rubbed against the hinder edges of the wing-covers. Sometimes the rasp is placed quite at the tip of the tail; and in some well-known beetles (such as the weevils) the rasps may be borne on the wing-covers and may produce the stridulating sound by rubbing against the edges of the joints of the tail. Among the sounds produced by beetles, the weird noise of the death-watch (*Anobium*) stands pre-eminent. The sound produced by these beetles resembles the ticking of a watch, and they may be made to respond by placing a watch close by their habitats. The female death-watches are known to tick in response to the sounds of the male insects. The noise is produced apparently by the insect raising itself on its legs and by its striking its chest against the adjoining wood. Thus the simple explanation of an insect call explains away the superstition expressed in Gay's line:

The solemn death-watch click'd the hour she died.

Butterflies and moths are known occasionally to produce sounds, which proceed in one or two cases at least from a drum-like membrane analogous to that seen in cicada. Mr. Darwin, indeed, mentions that one species (*Ageronia feronia*) "makes a noise like that produced by a spring catch, which can be heard at the distance of several yards." Among the bees, wasps, and other so-called *Hymenopterous* insects, the production of the humming noise forms a fact of interest in the history of the race. And one or two species possess a power of emitting sounds of more definite nature, which correspond to the "stridulation" of the grasshoppers and their kind. But it is a well-known and at the same time interesting fact, that bees are known to express emotional

variations by aid of their humming sound. "A tired bee," says Sir John Lubbock, "hums on *e'*, and therefore vibrates its wings only 330 times in a second." A bee humming on *a'* will, on the other hand, increase its vibrations to 440 per second. "This difference," says Sir John, "is probably involuntary, but the change of tone is evidently under the command of the will, and thus offers another point of similarity to a true 'voice.' A bee in pursuit of honey hums continually and contentedly on *a'*, but if it is excited or angry it produces a very different note. Thus, then," concludes this author, "the sounds of insects do not merely serve to bring the sexes together; they are not merely 'love-songs,' but also serve, like any true language, to express the feelings."

Every one must have noticed that the humming or buzzing of flies varies occasionally, and in accordance with the state of the insect; the sharp, high, excited "buzz" of the caught fly being markedly different from the placid hum of its ordinary existence. Landois maintains that a relatively low tone prevails during flight in flies; that the tone becomes higher when the wings are held to prevent their vibration; and that the highest tone of all is heard when all movement in the body of the insect is prevented. This last, he maintains, is that to which the term "voice," or, as we may put it, "song without words," may be applied. As such, it is produced by the *spiracles* or breathing-apertures of the fly's chest, and it may be heard when every other part of the insect has been removed. The low note of ordinary life is caused by the rapid vibration of the wings in the air—the sound of *r* being produced by 352 vibrations of the wings per second; while when held captive a fly will move its wings 330 times in the same space of time. The second sound, or that produced when the fly is held captive, by the wings, is caused, or at least is accompanied, by conspicuous movements of the joints of the tail, and by the frequent and rapid motion of the head against the front of the chest.

Such are the most prominent facts which entomology brings to view regarding the "voices" of insects. Spiders

of certain species are known to be attracted by music, a fact which, if of valid nature, would appear to reverse the order of the tarantula's famed but legendary procedure. And it is an unquestionable fact that some male spiders possess the power of making a rasping noise by rubbing the hinder part of the chest against the front of the abdomen or tail.

From the insect-class and from the great army of the invertebrates at large, we pass to the confines of the sub-kingdom which claims man as its head; and in the course of an orderly survey of the field before us we arrive at the fishes as the lowest of the vertebrate group. To speak of "sound-producing" fishes appears to be an anomalous proceeding, inasmuch as the silence of fish-existence is usually accepted as an article of unquestioning faith. But clear evidence exists that certain fishes do produce sounds of very definite character. Among those large-headed fishes the Gurnards, two, named the "Piper" and "Cuckoo" species, are so named from the notes they emit on being taken from the water. These sounds are due to the muscular movements of the "swimming bladder" of the fish, and are said to range over nearly an octave. Certain male fishes of the genus *Ophidium* are known to produce sounds by means of a curious chain of bones connected to the air-bladder by muscles; and the Maigres or Umbrinas (*Sciæna aquila*), one of the best known of Mediterranean fishes, are, perhaps, more celebrated for their accomplishments in the way of producing a drumming noise than in any other respect. Some authorities have declared that the Maigres produce flutelike notes, and the sounds are said to be audible in twenty fathoms of water. The male fishes alone make these noises, and Kingsley has recorded that the fishermen of Rochelle find it possible to take them without bait, by means of a skillful imitation of the noise. The Drumfish (*Pogonias*) of North American coasts obtains its name from the loud and persistent noises it makes, and certain other fishes, belonging to different species, imitate the latter fish in this respect. "To this fish (*P. chromis*)," says Dr. Günther in his recent work on "Fishes," "more especially is given the name of

'Drum,' from the extraordinary sounds which are produced by it and other allied Sciœnoids. These sounds are better expressed by the word drumming than by any other, and are frequently noticed by persons in vessels lying at anchor on the coasts of the United States, where those fishes abound." "It is still a matter of uncertainty," adds Dr. Günther, "by what means the 'Drum' produces the sound. Some naturalists believe that it is caused by the clapping together of the pharyngeal teeth, which are very large molar teeth. However, if it be true that the sounds are accompanied by a tremulous motion of the vessel, it seems more probable that they are produced by the fishes beating their tails against the bottom of the vessel in order to get rid of the parasites with which that part of their body is infested." Dr. Günther's explanation of the production of the noise of the Pogonias necessarily destroys any connection between that sound and the mating instincts of these fishes. But in other cases, from the almost universal absence of the sound-producing power in the female fishes, we are forced to conclude that the faculty in question is used and designed as a means of attracting the latter to their mates.

Perched on a comfortable log of wood is a frog, surveying nature with the placid stare of contentment which as a rule amphibians preserve under the most trying circumstances of life. I know that Mr. *Rana Temporaria* (as he is designated in scientific circles) possesses a voice, but that he elects to let himself be heard, as a rule, only when it suits himself. You may get round your frog, however, by an ingenious physiological trick, much resembling the act of an unknown benefactor who knows you are bound to laugh when he tickles you under the arms. Did you ever hear of Goltz's experiment of the "Quak-versuch?" No: then suppose that Mr. *R. Temporaria Clammyskin*, as he sits before you, could be deprived of the front lobes of his brain. The mechanism of the experiment is simple in the extreme. Draw your finger gently down the middle of his back, and when you touch a given part of *Clammyskin's* surface, the frog, *minus* the front lobes,

will croak. He will not croak unless you stroke his back: but regularly, as if you touched the "croaking-stop," in the amphibian organ, he will emit his single note whenever your finger arrives at the stated spot. There is much that is obscure here, but the *rationale* of the inscrutable croak is at least clear. It is produced by an order of the part of the brain which governs the vocal organs of *Clammyskin*, and which part is stimulated unerringly and unvaryingly by the outward stimulus supplied by the touch of the finger. But when possessing his front lobes, the frog may still be made to croak by the application of gentle stimulus to his back, while naturally the male frogs are given to croak incessantly at the time of egg-deposition. The male voice asserts itself in a very marked manner over that of the female frogs, and in the scientific version of

A frog he would a-wooing go,

the croak counts for much, both as a sign of attractiveness in the wooer, and of his progress in his suit. When we have attained to such heights in the science of mind as may entitle the scientist of the future to write the "Comparative Psychology of the Frog's Wooing," and of the *Clammyskin* tribe in general, the language of the croak may prove to be more diverse and eloquent than we may now suppose to be possible. There can be no doubt, even in the present state of our knowledge, of the overwhelmingly powerful nature of the oratory prevalent in our ponds and ditches in the months of early spring.

Vocalization of the highest types now awaits a brief review; and perchance, by way of introduction, you may not object to be reminded of the nature of the vocal organs and of that curious machinery wherewith the mind finds outward expression in so many and varied ways. Every one knows that voice comes from a region situated somewhere near "Adam's Apple." To be sure, this is no very definite way of expressing the anatomy of the organ of voice, but it serves the purpose of localizing the faculty, at any rate. The human "larynx" or voice-organ, to be brief, exists at the top of the windpipe, as a kind of gristly box, composed of elastic and movable cartilages of which "Adam's

Apple" is both a prominent and important example. This gristly box is placed in the direct track of the air-currents passing to and from the lungs. Its entrance is guarded above by a little lid (the *epiglottis*) which prevents food-particles from "going the wrong way." Inside the box are two folds of mucous membrane, named the *true vocal cords*; other two folds (the *false vocal cords*) also exist, but the latter do not aid in the production of voice. By the varying alterations and degrees of tension produced upon these cords by means of special muscles, and primarily through the outward passage of air-currents from the lungs, voice and its variations are produced.

Such is an outline of a lesson in elementary physiology which may be more fully learned, to the advantage of all herein concerned, from a shilling primer such as we may see—thanks to the advance of true culture—in use in very many of our secondary schools. The vocal organs of birds are constructed on a type essentially similar to that of man; but were we to apply to a primer of zoology for further information concerning the bird-class and its voice-organs, we should be told that birds actually possess two such organs—one situated as man's is placed, at the top of the windpipe, and one at the root of the windpipe, just before that tube divides into two to supply the lungs with air. Thus birds have an upper larynx and a lower larynx; and it is the latter which is the true organ of voice. Of all points in the history of birds, none is more surprising than the extreme variations in their song. A warbler has just finished its trill, with a burst of sweet melody that makes me long for a repetition of the song; the memory of the skylark's chant is ever-present with us as a morning hymn; and the night closes with a varied concert from the wooded grove in front of the house. The notes of the ducks bring before us another phase of bird-voice, the sharp peean cry of the peacock resounds in our ears, and the clang of the swan reminds us of the harsh and discordant as well as the sweeter lays of bird-life. "Why do birds sing?" asked the naturalists of old, and each supplied a different answer to the query. Says Montagu, the

"business" of the male song birds, "is to perch on some conspicuous spot, breathing out their full and amorous notes, which by instinct the female knows, and repairs to the spot to choose her mate." Once more the love-song theory appears to view, and finds its support in facts. Bechstein, careful observer and enthusiastic ornithologist, tells us that finches and canaries will choose the best singer as a mate; and the lady-nightingales are known to place the same high estimate on a fine flow of song. Then comes the "rivalry and emulation" theory, founded, to my way of thinking, upon the too lax notion that birds are bound to imitate the feelings of humanity, and which declares that birds sing for the sake of vanquishing their fellows, and that in every wood an "Eisteddfod" is held, with its exhibition of vainglory, jealousy, and emulation in the musical art. But emulation, if it exist, may be a part of the ordinary business of courtship, as one has every reason to believe it forms no small part of the phenomena of love-making in higher life, and the theory of rivalry in song may thus be included in the larger theory that birds sing because they mate, and mate because they sing.

Another important consideration remains to be noticed. It is a curious fact that the bird-songsters are all of the smallest size. Rarely, if ever, do we hear a melodious voice in a large bird; the Australian *Menurus*, or lyre-birds—so named from the shape of the tail-feathers—birds which may attain the size of a small turkey—being the most notable exception to the general rule above mentioned. Then, too, we shall find that the songs of birds may and do improve by culture. Sparrows will learn in time to sing most melodiously; and of course there is no end to the list of tunes or sounds a mocking-bird may acquire. In addition to true song, some birds may, as Darwin has it, practise "instrumental music." The turkeys "make a joyful noise" in their own fashion by scraping their wings on the ground, and the snipes, and grouse, "drum" with their wings, as also do the male goatsuckers or "nightjars."

Our study draws to a close. I promised at the outset that it could be nothing better than sketchy in its nature, and it



has been an easy matter to fulfil a promise of the kind in question. But outlines are preliminaries to complete pictures; and if I have neither the courage nor the temerity to fill in the sketch, I am well content to have perchance paved the way for a fuller consideration of the questions regarding the origin of songs with words and songs without words which contribute so much to our rational and natural enjoyment, and I will add instruction in the ways of living things likewise.

The evening begins to draw nigh; and already the singers of the day are leaving their leafy orchestra, and flitting homeward to rest.

That weird mammal the bat—vestige, as it seems to me, of the great flying Pterodactyls of the middle ages (of geology)—is abroad, looking after his interests in the way of gnats, moths, beetles, and such belated flies as may have innately determined that they "won't go home till morning," like certain rustic friends in the neighborhood, who thus declare on leaving "The Swan with Two Necks" in the village—but of whom a chief peculiarity is that once home they won't leave home for work when the morning comes, a fact explicable possibly on grounds connected with obscurity of the cerebral circulation. The bat sweeps round and round,

but is no singer of mine, although it squeaks when caught. Possibly under training the bat, like the mouse, might "sing"—and I heard a mouse sing sweetly behind a wainscot once upon a time. I hear a faint stirrage among the crows in the nests overhead, Mr. Crow possibly absorbing too much house-room, and Mother Crow expostulating on behalf of herself and progeny. The beetles are out for the evening, and now and then a late dragonfly wheels and sweeps along, regardless of certain active birds with wide gapes that hover near like aerial spectres. I hear a frog croak now and then—by way of assurance, I presume, that the Clammyskin family "never nods," but is invariably active and alive to the exigencies of life. The twilight deepens. There are sounds of stirring in the adjoining room. I hear my hostess play a prelude to a favorite ballad. She plays charmingly, and sings well; this last the highest expression of vocal development, and one which served doubtless in days gone by to captivate the heart of my friend the host, as in reverse order the cricket's chirp enchants Miss Acheta, or as the sweet song of Mr. Nightingale tells of his love for the listening beauty. Very good. I shall wipe my pen. Now for "songs with words." Good-night.—*Belgravia Magazine.*

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### DREAMS.

BY WALTER HERRIES POLLOCK.

A DREAM flew out of the ivory gate  
And came to me when night was late.  
My love drew near with the proud sad eyes  
And the fathomless look of soft surprise.  
I slept in peace through the summer night  
As I dreamed of her eyes and their depth of light.

A dream came out from the gate of horn  
And flew to me at early morn.  
I ran to the stable and saddled my steed,  
We rushed through the dawn at a headlong speed;  
When I reached my love the sun shone bright,  
And I found her dead in the morning light.

*Temple Bar.*

## A GLIMPSE OF THE UNITED STATES.

THE number of British subjects who visit the United States for pleasure is increasing every year, but the attractions of that country are so numerous that it is surprising how small is the proportion of travellers from our shores who find their way across the Atlantic. We do not speak of the multitude of tourists who have neither time nor health for so long a journey. They naturally resort to the neighboring capitals of Europe. They want immediate change from home pre-occupations, and this they find in visiting public galleries or spectacles, antiquarian remains, or historic monuments. They get rest and a certain amount of refined enjoyment, without acquiring or wishing for any special acquaintance with the people among whom they sojourn. They come back to the business of every-day life with some pleasant memories to muse over, and all the better pleased because there was nothing in their journey connected in any way with the thoughts that engage them in their own country. But for travellers less pressed for time, or less jaded in mind or body, the pleasures of a trip to America are as varied as they are real. Magnificent scenery, luxurious modes of travel, comfortable hotels, and a fine climate are no small advantages. For those who have not made a sea-voyage, and who are not incapable of enjoying one, the trip to New York is just long enough to give a delightful experience of the wonders of ocean with a very small degree of discomfort and danger.

Then there is more than luxurious existence and change of scene and variety of natural beauty to be enjoyed in this visit even by those who have not time or opportunity to make any study with American society properly so called. The mere superficial aspect of the people and the country is full of vivid interest for any one who is not too languid to care about history or politics or social organization. The first existence of this continent, so far as Western knowledge goes, is a part of our modern history; the growth of the States was closely connected with some of the most remarkable events, political and relig-

ious, in our own country. Their commercial enterprises are all interwoven with our own. Their laws and institutions are all built on political principles with which our constitutional history teems; their actual stage of political development is that toward which we are told the old European countries are gravitating. In the economic conditions of the country we can see with our own eyes the working on an enormous scale of many of those doctrines of political economy which have engaged the minds of the greatest thinkers, and for our own observation we have the aid of a widely-extended press, the advantage of a language with which we are familiar. No more vivid intellectual enjoyment has been offered to the human mind since the days when Athens saw the habits and laws of the old Hellenic races mirrored in the life of Sicily and Magna Græcia. All the institutions of the country, all the shibboleths we hear repeated in the press, recall some stage of our history. We are reminded at one moment of Magna Charta and Simon de Montfort, at another of the Puritan revolution. Virginia recalls the time of Elizabeth and the martial aristocracy of England; Maryland, with its great martial Catholic establishments, the alliances that proved fatal to the house of Stuart; Pittsburg, the scene of Washington's first military success, now the great manufacturing centre of the North, is a lasting monument of Chatham's most brilliant achievements. Each of the Northern States brings to mind some phase of that popular intellectual activity which, dating from the days of the Lollards, has presented itself in England under the various forms of dissent.

An active traveller, whose special delight is scenery, might turn the American railway system to such account as to visit all the great natural wonders of the United States in a couple of months. A less fatiguing and more interesting course will be to take some one tract of the States at a time, and observe something of the ways of the population as well as of the natural scenery around. A line running from Boston to Montreal

in Canada, from thence to St. Paul, then south by the valley of the Mississippi to the Ohio and east through the Alleghanies to Virginia, includes examples of all the important phases of American life except that of the Pacific coasts. We have within these limits one of the noblest of nature's works, the falls of Niagara, the fairy-like beauty of the Thousand Islands, the exciting passage of the Rapids, and these latter attractions are but adornments of the majestic current of the St. Lawrence, the greatest personality among the American rivers. The Hudson, with all its beauty, is an estuary, not a river. The Mississippi suggests a huge *dyke*, and we have to recall the thousands of miles it runs and the various climates it experiences before we realize that we are in the presence of the great father of waters; but on the St. Lawrence we are always conscious of the great effort of nature to carry the vast waters of the Northern lakes to the sea. Even within the limits above suggested the most picturesque aspect of the Mississippi may be enjoyed in Minnesota, where it rolls through a country that recalls some of the finest river scenery of Europe. At St. Louis it is already swollen to a mighty tide, and has acquired the character which it preserves for the next seven hundred miles to New Orleans and the Gulf of Mexico.

Preeminent as much of this scenery is among the marvels of nature, a still greater enjoyment is the observation of the people themselves, so variously occupied over this vast area in different stages of their work, the building up of the American nation. In such a circuit as we have suggested we could contrast the fresh enterprise of Minneapolis and St. Paul with the splendid repose of Cincinnati and the old settled towns whose position was won eighty years since. In the former we have all the excitement of a battle yet to be won. In the latter, spacious streets filled with an orderly and not hurried commerce, extensive suburbs with palatial villas, and a general disposition to turn to the more luxurious side of life, attest the success already achieved. But the strongest impression we receive in America is the almost fantastic contrast between traditional associations which

connect us with the people, and present habits and ways which mark them at once as a separate nation.

When the Englishman first looks at the waters of the Hudson dancing in the sun, the long smokeless streets, with their busy crowds certainly not of English people, his immediate impulse is to fall back on his earliest travelling companion, his scanty store of French, and to ask his way in that tongue. So strong is the impression of foreign locality which the climate and the aspect of the city give him, that it is some time before he becomes accustomed to expect to hear English from these tall, spare, keen-eyed men who talk so little, in so low a tone. When we meet Americans in Europe, their accent attracts attention; when we are among them, with climate and manners and dress and expression so different from our own, our surprise is to find them at home in our language. The spacious hall of the hotel is not reserved for the guests and the servants. It is filled by a busy crowd. Not that they are always moving about or talking. The men who sit in the armchairs against the wall or clustered round the pillars that support the dome, are not idle vacant-eyed loungers. They closely observe each passer-by, now and again glide through the crowd to claim an old acquaintance or to give attendance to a promised rendezvous. Loud talking is much more frequent among the women. In ordinary business the American is never noisy. He says little. It may be to the point or not, according to his good sense or honesty of purpose, but it is generally brief and always delivered in a quiet low key. As both good sense and honesty are leading characteristics of the American people, the exception here made to the general terseness of their ordinary communications is but an exception.

Hard as they work, they have, like other people, their social gatherings and their holidays. On these occasions no people are more chatty and sociable, as we know from our experience of them at this side of the Atlantic, as any traveller can prove for himself if he joins an excursion from Boston or Philadelphia; but before we are many days in the country we are struck by what Mr.

Carlyle would recognize as a great gift of silence, a characteristic which American writers have often noticed, but which can only be appreciated among the people themselves. The peculiar humors of American life have often been described; the American story-teller, the captain of the Mississippi steamboat, the bar frequenter, the professional politician, what Mr. Matthew Arnold would call the rowdy Philistine, have had many painters. What neither books nor our experience of Americans in Europe present to us are the habits and type of the working American, the merchant or trader in his daily life, whether in his ship or in his office, or travelling in search of custom or employment for his labor or his capital. His mind is so intently fixed on his object that he avoids all useless expenditure of thought or words. Restless he may be. He is seldom long in the same spot. He likes movement, even the motion of the rocking chair. He is never listless. Nothing escapes his vigilant eye; but it is a quiet, regulated vitality, too absorbed and earnest to be noisy. At the dinner-table of a great hotel you may occasionally hear a couple of veteran politicians discuss the signs of the times, or recall former struggles, or the young people of a family party may be encouraged by a few inquiries as to their tastes or plans of holiday; but generally, both with men and women, the meal-time is too important a part of their busy lives to be given up to idle conversation. The long, elaborate *menu* is scanned with close attention, a varied repast is ordered, and the rest of the time is devoted to its consumption. This is achieved with great rapidity, considering the number of dishes—say, for breakfast, various fruits, hominy, fish, meat, eggs, beside a variety of vegetables and cakes; but there is no greedy eagerness. It is an important piece of work steadily carried through, and once it is finished there is no loitering. The last mouthful swallowed and the finger-glasses used, the chairs are pushed back, and the guests glide swiftly off to the other occupations of life.

The lower part of New York abounds in fine scenery and memorable associations. As our steamer approaches the wharf after nightfall, one of those many

steamers which bring back holiday makers from the pleasure parks of Coney or Staten Islands, the lights gleaming on every side, reflected in the waters all around, remind us for a moment of the sea-encircled city of the Adriatic. In the morning sunshine, the width of these channels and the great navies riding in them recall us to modern commerce. The glade of tall trees in the Battery Gardens close by affords a pleasant contrast with the busy scene of the wharfs. Adjoining is the Bowling-Green, the centre of the city in colonial times. Its fine trees and quaint surroundings recall the days when Washington struggled with the Howes and the Clintons for the possession of the city.

We have hardly time to enjoy this locality before we become acquainted with some of those special traits which mark the American people all over the States. Within a few yards of this almost rural quiet we are in the Broadway and at the corner of Wall Street, the money market of the United States. The throng of eager business people traversing the streets reminds us of Lothbury rather than of the Rue Vivienne; but the scene becomes very different from either of these old-world quarters when we become familiar with the demeanor of the individuals who make up the stirring crowd. The sense of personal independence is already visible in a thousand ways, and when we get to see what this bearing means it has all the enjoyment of a new experience.

If we enter a shop, we do not find that deferential welcome which London offers; rather a critical, inquiring attitude, as of men—we think—who recollect that a chance customer like ourselves may be, perhaps, no better than he should be. We soon find that this undemonstrative observant demeanor only indicates the intention of the shopman to ascertain our wants as thoroughly and quickly as possible, and supply them without delay. There is no time lost in ceremony; our demands are met with promptness and quiet civility. The shopkeepers assume that we, like themselves, want to get through the work with as little delay as is consistent with finding what we want. The shopman—or clerk, as he is termed—and the



shoeblick are the merchant and the railway director and the statesman in an earlier stage, and they do their immediate business with thoroughness and confidence, like people who feel that they are bearing their part in the larger and higher conceptions of life, and will, if they do themselves justice, be one day as comfortable and important as any of their customers. In the American clerk or workman of to-day, whatever may have been the case in the past, there is no vulgar assertion of this equality. The people he has to deal with ordinarily never dream of disputing it. It is only in the case of a European, accustomed to the subservience of the productive or distributing classes here, that any embarrassment can arise. We soon learn that the absence of the deference we are accustomed to does not mean disrespect; it is an unconscious compliment. It is giving us credit for a knowledge of their social system; it assumes that we are aware there is no social inferiority between the wealthy merchant and landowner and the laborer or clerk; it attributes to us some of their own good sense to conclude that we want our business done, and done well, without loss of time.

Upon the lower order of laborers this influence is particularly beneficial—people who do the work of cabmen and porters, and what we call day laborers. Among these people there is a general absence of that roughness and rowdyism which mark the same class with us when their temper is disturbed. In the course of one's travels occasional disputes arise, and there is the usual amount of petty knavery; but nowhere do we meet with that insolence which almost invariably accompanies a dispute with the same class here. Bad language is hardly ever heard, even in the North-West. Certainly there is much less of it there than among the young men of fashion in New York, who seem to think that a certain amount of damning this and that proves a familiarity with European habits.

One noteworthy result of this spirit of self-respect is that the traveller is not called on to spend time and money in distributing largesses to small railway and hotel employés. Another effect which we can trace to the same root

idea, is an attention to personal tidiness much greater than among the same class with us. In a few weeks in the United States we see more shoe-blackening and brushing-up than perhaps in all the rest of our lives. Everybody does rough work now and again, and the fact that they do hard work is no reason why they should not make themselves tidy and comfortable when the work is over. A curious sight it is to walk down Broadway just as the shops and warehouses are about to close, when the assistants may be seen at the doorways waiting in a group round a shoeblick, who has been retained to complete their toilet before they start for their respective abodes—go "up town," or, as we should say, "go west." In the same way, hotels and railway trains and stations abound in convenient lavatories, and travelling is carried on with a consideration for cleanliness and appearance which is not general in Europe. This comes partly, no doubt, from the greater practice in travelling which the habits of the Americans give them, but is also in a great measure due to their disposition not to give way to circumstances. They are too conscious of their dignity and position as American citizens to be put out of countenance by material difficulties, and they gain the habit of making shift as best they can. Rough travelling, or coarse and dirty work, is nothing to be ashamed of; and the man who knows what cleanliness and order are, asserts his natural taste on the first opportunity.

Of the cosmopolitan world of New York the hurried traveller may be able to see but little. That little, however, will probably convince him that he has fresher fields of observation elsewhere. The fashion of the Atlantic cities has many attractions, but, with a dash and daring and lavishness all its own, it is strongly modelled on European habits. Perhaps its least interesting characteristic is the disposition to convince strangers that these Americans of the eastern cities are not as other Americans, but have European tastes and experiences. It is not that they are ashamed of their own country. The spirit of national pride in their present strength and the great career before them is never absent in any American, but one does frequent-

ly find among the wealthier classes a disposition to accept European ways simply because they are European, and without discriminating judgment as to whether they are nobler or better ways—ways that tend to make life more worthy or beautiful. Instead of treating their own social habits as a basis on which to superadd good things from other places, they strike a European as too apt to run after an imitation of European manners and customs, and the result is a contrast, an opposition to the home life of the country, instead of such an engrafting of the ways of old countries in harmony with the natural life of America as might give us much to learn from. As it is, a combination of business energy and restlessness, with close imitation of French and English ways, is not fascinating, and seems little likely to produce any good result for America or for the rest of the world.

In Chicago and the North-West we are away from this Europeanizing influence. There we have the American people carrying on with full vigor the work which they have been engaged in for some two hundred years under the lead of the New England populations. It is the younger sons of families from Massachusetts and Connecticut who settled Illinois, as they settled Ohio and Indiana long before, as they are settling Minnesota and Dakota now, and establishing themselves in Wyoming and Montana. Chicago has been founded a long time, and is a vast metropolis in its wealth and extent, but still it is the settler's city. It has preserved all the freshness and buoyancy of a new establishment. Its scheme is to be the big city of America, owing to its central position among the regions which are mines of agricultural wealth to be worked as soon as hands are found for the task. Chicago is not content to be the great commercial city of Illinois or the emporium of the lakes. It is to be the centre of all the United States territory between the Rocky Mountains and Pennsylvania, and as much of that country has yet to be filled, Chicago cannot assume yet her position as a city whose victories have been won. She is still provisional only, for a population to come, and thus in the midst of great wealth and conveniences of every kind,

crowded with majestic buildings, Chicago preserves for our observation all the notes of a people camping out. We have exchanges, theatres, fashionable quarters and suburbs, and of course innumerable lines of tramcars; but that is nothing, for there is hardly an American village without a line of tramcars, but from the newsboy to the wealthy merchant all are full of the one idea how Chicago is to be made what it ought to be, the commercial centre of the West. It has a great variety of inhabitants of the most remote nationalities; Russians and Poles, Frenchmen and Germans, Irish and Scotch, are neighbors in its wide suburbs; but the dominant influence is the enterprise and order of the Eastern States. Though there are plenty of elements of rowdiness, and so many changes have come over men's minds since the time of Roger Williams that every freedom is given to separate opinions or religious observances, still the energy and sober self-respect of New England prevail over all. The resolution of the old colonists who founded Providence and New Haven and Boston is animating this vast multitude in conditions so prodigiously different, with steam and electricity connecting it to all parts of the world, and an organized press stimulating the passion of notoriety. The old colonists belonged to one race, one creed, it might be said one congregation. The North-West opens its arms to all races, to all religions, be they ecclesiastical or simply subjective, but it is one with the Pilgrim Fathers in its resolution to win the earth and use it worthily, and with this purpose and love of toil comes a friendly brotherhood between these widely differing groups. They contribute information, they contribute help to each other with a ready aptness more touching than anything which more refined manners could present. They are all fellow-laborers together, and thus they have a unity of purpose and a common sympathy springing from that unity which enabled them to supply each other's wants without fuss or parade. In travelling by railroad or steamboat this may be observed at every turn, little civilities done by one passenger to another, arranging their packages, opening or shutting a window, calling atten-

tion to something mislaid so promptly and silently, and acknowledged only by a word, an appreciating glance, as almost to escape notice from the looker-on.

All their kindly acts come in the course  
Of nature, not as efforts meant to please.

As regards women in particular, this vigilant helpful forethought of the American mind has special charms. There is hardly any subject on which more dreary nonsense is talked and written than on the position and demeanor of American women. Their beauty, we are told, is due to the life of ease and splendor which the wealth and intelligence and chivalry of their country produce. They are free from the family worries, from the financial anxieties, which vex the women of the Old World. Even the physical burdens which most women are subject to, riches and science have reduced to a minimum. All that is required of them is to be beautiful and receive the grateful homage of mankind. That there are plenty of handsome women who live in magnificent houses with almost absolute command of their own time as far as household duties are concerned, that they occupy themselves much with society, its amusements, and occasionally with various schemes for remodelling social habits—all this is true, but it only refers to a very small portion of the Eastern States, and a portion of which the present influence or the future development appears very uncertain. So far as this position of some American women in the Eastern States is not the usual concomitant of wealth, and has any connection with the special life of the country, it is due to what we see in a much more distinct and beautiful form in the simpler districts, the primitive vigor which the family relations still retain, and the consequent ready helpfulness of men toward women. The word "tender" suggests itself, but tender does not describe the demeanor and habits which make a great beauty of these half-populated regions. There is no self-consciousness about them, there is no posing, there is no particular satisfaction apparently in giving help to a woman rather than a man. These ways are only a part of the vigilant sense of com-

munity of interest which we see evident all around. All there are fellow-workers, the woman is the less strong, more naturally requires attention and aid, and she gets them with promptness, and without obtrusiveness, at every hand. No doubt in these Western States the women have a great deal of hard work, but it is work which the spirit of invention and the accumulations of the Eastern States have stripped of its more grievous characteristics. Machinery and the most various household appliances have come to the aid of the woman, and enable her without excessive physical toil to take an active part in the enterprise of her husband or her brother, and her sense of community with him is ever fresh and vigorous. Although most of the women are married, and children come in abundance, the cares of domestic life and the business of the husband occupy alike the attention of both parents, the woman ever vigilant and sympathetic, and taking some share, according to her power, of the actual work.

One of the most interesting of these Western towns is St. Paul, situated in the picturesque scenery of the Upper Mississippi. The site has been wrested from the Indians within living memory. In 1854 its population was three thousand. Now it is seventy thousand. Mills and great warehouses are rising on both sides of the river, and New England influences are more conspicuous than in Chicago. The great tide of European emigration has not yet flowed up to this place sufficiently to obscure the original settler spirit. In its main streets and suburbs handsome traps abound, and nearly all of them are driven by women. The men are busy in the mills and stores. The marketing, the communications between one point and another, all this is lighter work, and by a natural economy is left to their bright and active helpmates.

It is one result of the great productive activity of the people, that the accumulations which their industry has brought together fill their thoughts and are presented in their conversation much more frequently than among ourselves. Idle gossip here notes a man who has been a double-first, or has a beautiful place in Kent, or a fine gallery of pictures, or is

of noted descent, be it from some politician or soldier or lawyer. Many and various are the claims to attention put forward in the ordinary gossip of a watering-place, but in the States every one we notice is "immensely rich;" sometimes the adverb varies and it is "enormously rich;" or a more ambitious conversationist will tell you that the husband of the charming lady whom you sat next to at dinner is worth millions, but admiration of success in getting the reward of industry, an accumulation of dollars, becomes a sort of mental law. The men apply it, the women talk about it, and the word "rich," with various adverbs and qualifications, occurs in conversation almost as often as "doch" in a German dialogue. It would be hard to imagine how their conversation would go on without it. The traveller is struck with a baby's beautiful eyes. The lady sitting near sympathizes with his admiration, and her own fine eyes lighting up with unwonted animation, she adds in a voice thrilling with emotion, "Do you know that he is heir to millions?" Her sympathetic enjoyment of the baby's beauty and her admiration for the millions go quite well together in her mind. The sense of beauty is the natural outcome of a fine-toned sensitive nature, but it is stimulated by the consideration of practical results habitual to her nation. The physical appreciation of beauty is intensified by the idea of millions representing great labors and achievements, giving promise of still vaster and nobler exertions of human energy in the future. This tendency to dwell on the fact of riches would in an old country be offensive and degrading, for in Europe there are many other calls upon our time, many other ways marked for service and distinction beside material development. In the United States this language does not indicate avarice or cupidity. Misers are probably more rare than in Europe. The most magnificent donations for public purposes are made every day. Vulgar fawning upon wealth is comparatively unknown. This language is the natural outcome of two circumstances, the one accidental, the other closely connected with the moral grandeur of the people. The first is the ready means of acquiring wealth which the climate and the fresh

soil supply; the second is the nervous energy which impels every American, as it were by instinct, to push on, each to do his part and make the best of this splendid opportunity.

Another accident of American habits which we can only understand among the people themselves is their warm interest in everything relating to kings and nobles. In the mind of the Briton there is always lurking a genuine awe for hereditary rank. Sometimes it reacts in militant denunciation of all aristocracy, sometimes it is veiled in decorous subserviency, and by the Briton accordingly the American rush in pursuit of a live lord is regarded as the grossest flunkeyism. This is altogether a mistake. To the American the hereditary noble is the most foreign of foreign products. In his own country he can observe for himself almost anything else which goes to make up the public life of history. He is not a book man, he is not a philosopher. Books he uses, but his great reliance in the battle of life are his exceedingly acute faculties of observation, and he is glad of the opportunity to see for himself what sort of being this old-country institution produces. The noble captive receives hearty attention, generous hospitality; so would any other European whom the American took an interest in. In the attention paid to European rank there is nothing of that fawning, of that reverential attitude which we so often observe in the middle class at home. With a lord in chase the American may pass by ever so many accomplished and able commoners. But accomplished and able men he can observe in his own country. The hereditary noble is a piece of history for which he has to go abroad. If we want an analogue for this phenomenon which the Englishman so often mistakes for an indelicate presentation of the feeling so dear to his own heart, it is to be found in the objects to which a cultivated visitor would direct his attention in India or China. Such a visitor would be far more interested in the ways and mode of thought of any native gentlemen whom difficulties of language might enable him to become acquainted with, than in the best society which Anglo-Oriental rank and statesmanship could give him.

A great field of observation is the



general sentiment which pervades the religious bodies in America. The various communions of the United States are the offspring of the most rigid of dissenting bodies, and the taste for external religious observances is still powerful. Sunday in most American communities is observed as strictly as in an English country village or in Scotland. But notwithstanding the narrowness of their religious traditions, the confidence with which they claim from their neighbors acquiescence in many of their observances and opinions, the European observer is astonished at the comparative seclusion from public attention of doctrinal distinctions. The writings of Dean Stanley are favorite text-books in Presbyterian schools and colleges. The ordinary doctrines of Deism, a respect for Sunday and the Bible, are a common ground on which all the Christian sects are willing to meet without troubling themselves about details, and this latter point of respect for the Bible is rather a formal recognition of that ancient source of Christian teaching than any profession of personal study of the book. That intimate knowledge of the text of Scripture which we find so frequently among Presbyterians at home, and in one degree or another among most of the British dissenting communities, is not common in America. They have sufficient personal knowledge of the book to appreciate any amount of biblical literature, sermons, disquisitions on the Bible; illustrations of it are followed with attention; but there is nothing like the same familiarity with the actual text of Scripture which we find among many old-world communities with much less pretension to prosperity and well-being. That this comparative neglect of the letter of the Bible has produced the greater expansiveness of their religious opinions is not here suggested. In trying to explain that larger freedom of thought, while we are struck on all sides with the absence of higher speculative activity, we come round to the great cardinal fact which lies at the base of so many things in the habits and history of this people, their geographical position. The masters of a great continent richly endowed by nature, they are engaged in spreading over it a prosperous humanity, without social miseries,

without the bloodshed which mark the rise of nearly all other nations. This thought of the splendid career which nature has provided for the people fills the minds of all Americans, from the workman to the great financier. This continentalism, if we may be allowed to adopt a term in contrast with that insular feeling, with that contentment with a restricted idea from which the British mind too often suffers, finds expression among a comparatively unlettered people in big phrases that excite our derision. Allusions to the oceans which wash their continent, to the mighty rivers which traverse it, to the rising and the setting sun, to the expectant ages awaiting their efforts, sound empty mouthing to us, but they appeal to the American's large and generous pride in himself and his fellow-citizens. There is room for all in the great work which nature has assigned him. No man who is orderly can be his enemy or even his rival. The great nature around him bids him seek points of union, not of difference. The newness of his national birth, the dignity and splendor of his national career, the enormous influence which the mere size of the work he is now doing must have in modifying the future history of the world—all those considerations occupy his thoughts in preference to the subtleties of former times. His religion is an active moderating force upon his life, but he expects it to work in with the great purposes which fill his imagination, rather than to divert him from his proper business. Last autumn Dr. Beecher, reopened his church at Brooklyn with a sermon which illustrated the marvellous way in which this religious teaching connects itself with the habits and thoughts of the people. His text was from Matthew—"In this place is one greater than the temple." These famous words have served through many ages for those who would exalt spiritual above material things. In the mouths of the Mystics, in the mouths of the Trinitarians, they have had various significations. In the mouth of the Baptist orator they introduced a splendid panegyric upon individuality. All the mental habits of criticism, of self-assertion, of dauntless antagonism to aggressive authority which the practice of popular liberty, the

struggle of personal competition had formed, were elevated into a noble creed of moral independence. The great preacher seized the floating, half-formed thoughts of his vast congregation and gathered them into a mighty tide to carry his hearers onward toward a more exalted idea of their powers, their duties and responsibilities, to their country and their age. He appealed to their pride, their habits as free citizens of a great country, to make these old words from Galilee glow with a new meaning which should teach his hearers in their every-day life to cherish a sympathy with divine things. Before this idea of the great career of a citizen of the United States the energies it evokes, the habits of order and self-denial which it inculcates, the sympathies it brings into play—in face of all this the controversies of theology become questions of individual conscience. The general principle of liberty secures every respect for them, but still there are considerations for the individual rather than for the community.

This paper is not concerned with any study of American politics at the present time, but some observations of the Americans at home suggest a few remarks on the speculations we hear about American policy in Europe. These dissertations are largely founded on a study of the American press, and, although newspapers are so numerous and many of them so able, there is probably no country with Western institutions where newspapers are so little influential. One might travel all over the Eastern States without finding a single individual who regards a statement in type with that stupid simplicity so common in this country. Belief in the veracity of the newspaper is as little known as respect for the patriotism and wisdom of the public man. The American is much less of a reader of books than is generally supposed. He wants his newspaper to bring him the intelligence of the day, the state of the markets, and so forth. The political article helps him to judge how certain political combinations are working. If the paper adds a social essay or a scandalous family history, or a column of verse, these contributions supply him some mental entertainment. He may note the scandal,

but he never thinks of believing it because he has seen it in print.

The language of the press is no indication that Americans, in our times at least, are likely to vary from the characteristics which have hitherto marked them, a clear-sighted common-sense pursuit of their own interests, and a national pride too confident and deep-seated to be passionate. Washington's influence over the destinies of America was mainly due to the fact that his mind, notwithstanding special attributes arising from accidents of social position and training, was thoroughly characteristic of the people of his day, and it is not splendid range of imagination, generous enthusiasm, which have made Washington illustrious, but resolution, common sense, sublime patience. Notwithstanding all the changes which time and immigration have wrought and are working in the American people, these are still their predominant characteristics. Men who one day prophesy great effects from the Irish element among them, tell us the next that German influence will be in the ascendant, and will infallibly destroy American traditions. There is a certain jealousy of German ways among New England populations. In politics, however, the German immigrants rapidly follow New England teachings, and their adoption of American social habits is nearly exactly in proportion to their progress in wealth. In art, on the other hand, they are spreading through the States a most useful influence. However low we may place German standards of taste in many respects, in music they are supreme, and New England has no natural taste for music; but German influence is carrying a popular taste for music far and wide through the population of the North-West. With music will certainly come an artistic spirit which may give us great achievements in the future, an art and literature springing from the resources of the people developed in harmony with the influences of climate and tradition, and not a mere imitation of Europe.

The reader is not encouraged to visit the States in order to find new ideas in politics, philosophy, or art, but to enjoy the intellectual treat of observing the growth of a new people, and the

practical sufficiency with which they supply their political wants, while they secure a large enjoyment of individual liberty. Among the masses we find familiar knowledge of complex political ideas and the most widely diffused personal well-being. Not only are these millions well fed and well clothed, but they understand in one degree or another how by their individual industry and obedience to law they contribute to the prosperity of each other. We may not

be able to carry away from America any social inventions which we can apply elsewhere ; but apart from one's natural satisfaction at the sight of material happiness on the grandest scale, we can see with our own eyes that the America of to-day has secured for labor a comfort and dignity unexampled in the history of the world. Perhaps in the future she may go on to show how the enjoyment of riches may be made more noble and beautiful.—*Cornhill Magazine*.

#### NOTTINGHAM LACE: ITS HISTORY AND MANUFACTURE.

To say that the fine and delicate machine-made fabric which falls in soft folds before our windows, or forms the graceful cloud-like charm of a ball-dress, owes its origin to the useful but unbeautiful stocking, may at first sight seem as absurd as an attempt to trace the descent of a humming bird from a frog ; but that hosiery is the parent of lace is nevertheless perfectly true. It was by the many varied modifications of the stocking-frame that machine-made lace was first produced. Probably its earliest form was that of a figured lace-web—no doubt produced by an attempt at open weaving—which was made on a Nottingham hosiery-frame by a certain Robert Frost in 1769 ; just at the period when the rapid introduction of countless modifications and improvements in stocking-machines was inciting Nottingham to new discoveries which should prove profitable to their authors.

The idea of manufacturing a machine-made imitation of the costly and beautiful article known as hand-made or cushion lace (formed by a tedious process involving great waste of time and labor), had occurred to more than one thoughtful mind. Else, Harvey, Hammond, Lindley, Frost, and several others, had been for many years exerting great pains and ingenuity in the attempt to modify and add to the stocking-frame in such wise as to combine the manufacture of lace and net with that of the fancy hosiery, which was then occupying universal attention. To their efforts is undoubtedly due the first beginning of a trade whose productions and effects are now known all over the civilized world, and even in many of the still barbarous por-

tions of the globe ; but their chief success only amounted to the production of looped articles of considerable merit and good quality, and it was not until much later the twisted meshes were finally introduced and perfected. During the latter portion of the eighteenth century, the additional attention of a large number of mechanics was directed to the invention of a process by which these twisted meshes, without which no machine-made lace could satisfactorily imitate the bone or pillow lace, could be properly constructed. Very many changes and improvements took place in the frames, and a large book might be filled with an account of these, and of their inventors. Mr. Felkin, in his valuable work on the subject, endeavors to give a clear and impartial list of the names of those to whom is due the credit of these various improvements in the manufacture of lace ; but the task is a difficult one, as it is almost impossible to assign to many alterations their real originator, owing to the fact that many of the mechanics worked out their plans together, and that a change of any sort was instantly adopted and claimed by a large number of persons.

Hammond, popularly believed to be the inventor of bobbin-net, has no real claim to the honor. His net, though very saleable, possessed no single characteristic of the bobbin net. He is said to have taken his first idea from the huge border of his wife's cap, which met his absent and desponding gaze on an occasion when they had together been refused entertainment at a public-house on account of their lack of money. Hammond, inspired by a desire to gain

enough silver for the purchase of his coveted beer, went home and applied himself eagerly to the production of what he called "Valenciennes lace," though it bore no resemblance to that article; and it may interest promoters of the temperance movement to learn that it sold well and quickly, and enabled him to satisfy the end for which he invented it; indeed he spent in drink most of the money it brought him, and by this means probably shortened his days.

The great aim of the inventors of this period was to imitate by machinery the equal sides of the cushion-lace mesh, and upon this subject much ingenuity was expended. A mechanician, whose name has not come down to posterity, discovered a method of imitating the open-work in pillow-lace, by removing some stitches, so as to form holes, which were soon after surrounded by fine embroidery. Thus began lace-running, which has given employment ever since to thousands of women and girls. Warp-net, about 1820, became also ornamented, but this was effected by the improved process of ornamenting the net while in course of manufacture; and spotted, figured, and bullet-hole nets now came generally into notice, being rendered fashionable by Queen Adelaide, who appeared in public attired in a dress of white silk Nottingham net. The court eagerly followed the fashion, and thus the demand for warp-net became so great that the manufacture was much benefited and increased, until 1835, when the adaptation of bobbin-net machinery to the production of a far superior kind of ornamented net led to a heavy fall in the warp-net trade.

The warp-frame was first introduced to public notice about the year 1775, and was of great importance, from its plan of forming the looped stitches upon warp-threads. This invention, like most of those in the lace trade, has been claimed by more than one mechanic. One of the claimants was a Dutchman named Vandyke, in whose honor the name of "Vandyke warps" has been conferred upon a certain style of striped silk hose, made upon the warp-machine; but there is little doubt that the real inventor was a man named Crane, who, however, greatly complicat-

ed the business by selling his discovery, which was afterward stolen from the buyer, and thus shared by all three persons. The warp-frame, in addition to other advantages, possessed large facilities for producing the much-desired open-work; and the many improvements which have since been made in the machinery, have endowed it with a wonderful versatility of production. It now manufactures both the heaviest and finest goods, and is equally valuable in making the most delicate articles of web-like lace, or the cheapest and coarsest exports for South America and Africa.

In 1810, a certain John Moore of Croydon invented a machine for forming a Mechlin mesh, by platting some of the threads. The process was too slow and laborious to be remunerative, and the lace thus manufactured was so exceedingly expensive as to be but little improvement in that respect upon the pillow-made article—a piece of plain net only forty inches wide being sold for five guineas a yard. This machine has long since disappeared, and with it its production, which, though one of the most perfect and beautiful articles of its kind, and the most complete imitation ever yet made of pillow-work in its mesh, was far too costly to obtain a general market, though it was at first employed as groundwork for Brussels lace; but its place has for many years been supplied by fine net of three-twist meshes.

Cotton was now rapidly taking the place of linen thread in pillow-lace making, in spite of the general prejudice against its introduction; but its far superior advantages in the matters of elasticity and cheapness overruled the popular objections to its use; and in time the Buckinghamshire, Honiton, and Northamptonshire lace-workers adopted it to the almost entire exclusion of its more elegant rival. The growth of lace-manufacture in Nottingham led to a demand for new and improved kinds of spun yarns; and a rapid improvement in this branch of manufacture was an immediate result, giving employment in 1831 to 9638 persons, of whom a large proportion were at work in Nottingham or its neighborhood. The untiring attempts to invent a machine which would produce twisted and trav-



ersed meshes in net were still most active. To understand the eagerness with which the pursuit of this discovery was carried on, it must be remembered that until this object could be effected the mesh was neither durable nor secure, and its utility was seriously imperilled. Until a safe firm mesh, similar to that formed upon a lace-pillow, could be produced by machinery, the imitation of cushion-lace by that made in the frames could never be really a success; so it is hardly a matter of wonder that this valuable secret was almost as earnestly sought after by mechanicians as if it had been the philosopher's stone. Nearly twenty artisans spent the better part of their lives in this search, in spite of the incredulous scorn with which their efforts were watched by the unsympathizing public; and several of the number fell victims to their zeal for knowledge and enlightenment—two dying from disease of the brain, brought on by overwork, and many others wasting their lives in that desolation of disappointment, discouragement, and long-deferred hope, which seems to be the inevitable portion bestowed by this world upon those of its children who have really its benefit at heart, and strive to the utmost of their ability to further any advancement, whether of art, literature, or science, which will tend to the advantage of mankind.

This great discovery, which had baffled so many a skilled mechanic, was at last mastered by a certain John Heathcoat of Duffield, near Derby, who in 1808, at the early age of twenty-four, constructed a frame for making "bobbin net," and so achieved what for years had seemed an impossible feat. His first machine was soon followed by another, more complete and elaborate, having been finished and perfected with wonderful care and accuracy, and being, perhaps, one of the most complex and ingenious inventions of modern times.

One of the chief causes of the high price of pillow-lace is the great waste of time and labor involved in the process of making. Any one who has watched a Honiton lace-worker will have been struck with the disproportion between the swiftness with which the hands of a practised worker "shift" her bobbins, and the tedious slowness with which the

smallest result is achieved. The reason is obvious; each plat, cross, or twist involves a distinct movement of the hands, and a consequent waste of time. To effect the completion of an entire row or breadth of lace by one concerted movement, was the aim of machine lace-makers, and this object was achieved for the first time by John Heathcoat's first patent of 1808, which, though only in use till the introduction, in the following year, of its more finished and improved successor, has still the honor of being acknowledged as the original bobbin net frame. The lace manufactured upon it was limited to the width of about three inches—the usual extreme breadth of cushion-lace; and when wider lace was required, these strips of lace were stitched together by means of a needle and thread. Heathcoat's patent of 1809 obviated this difficulty by an improvement in the machinery, by which lace of greater width was produced, thus presenting an advantage which could not fail to strike the most partial observer. His own account of the invention of these two ingenious machines, the introduction of which mark an era in the manufacture of lace, may perhaps interest those who have not already met with it, as given in Felkin's work on "Machine-wrought Hosiery and Lace":

"When I was a boy at Long Whatton, in Leicestershire, with my mother, a girl used to come in to see her, whose cousin had been employed at the factory of one Dawson, in London, whom she described as having made a fortune by making lace upon machinery. On one of these calls this girl turned round to me and said, jocularly, 'Why can't you do so too, John?' This fixed my attention so much, that although it occurred forty years ago, it returns to my recollection even now. I do not mean to attach too much importance to this incident, yet no doubt it had an influence in the direction of my thoughts and energies at a future period of life. Point net was then made, and the lace trade excited some interest. About the time I grew up toward manhood, warp piece-goods (not lace) were also beginning to be made. I worked for my bread, and I tried to invent. I did so by finding out a different mode of carrying the thread in the warp machine, to what was in ordinary use—viz., passing the thread over the needles on which the loops had been formed immediately above the threads, and also over the next needle, so as to form a kind of lace. But I soon learned that this had been discovered before, though I had then no knowledge of it.

The first warp machines were making 'Berlin,' and the person with whom I then worked altered one to make 'mitts,' of a lacy appearance, and approaching the lace fabric. A man about this time made four and six course warp. For a time it was supposed by many that the difference between pillow and machine lace was solely in the material used; but everybody soon knew that they were unlike in some other respects, and it was ascertained that the texture was different. I set to work to inform myself in what the peculiarity in the texture of pillow-lace consisted, and for this purpose obtained a sight of the process of making it. A pretty heap of chaotic materials I found it!—like peas in a frying-pan dancing about. After watching the progress of the work-women, and minutely examining the lace I found much difficulty from the circumstance that a thread which had been carried for a time lengthwise, sometimes became a traversing one, and *vice versa*. It was impossible, under the natural supposition that this was a part of the system, and not, as it really was, an irregularity, for me at first to trace the course of the threads so as to understand their ordinary and regular progress. At length I made out that one part were passed to the right hand, another to the left, and a third seemed to be independent of them, never deviating in their course, but always passing straight through the length of the piece. This part of the threads, I saw, might be put on a beam for a warp; and it was this discovery that simplified my subsequent progress in attempting to mechanize the processes of the pillow.

"In my first attempt mechanically to make bobbin-lace, the bobbins were arranged in a fan-like order on pinions; and thus radiating, they were made to twist round each other, and a row of pins forced up the crossing to close the mesh. These pins were fixed on a bar, but they spread out and contracted when brought in contact with the work, forcing up the twist and the crossing, until the meshes became of the right size and shape. By this arrangement and process only very narrow strips could be made. However, I constructed a machine to produce three such pieces at a time. Lord Lyndhurst, then Sergeant Copley, always said that this machine was far the most ingenious of any upon which lace was ever made.

"The value of lace is, however, so much enhanced by its being made of greater width, that I was determined to make it even a yard wide. At this time I had arrived at the important point, that having made lace as above described, I had satisfied myself my principles were sound and well based. But I now clearly found out that while half the threads must be active, the other half might be passive, and I therefore put the latter on a beam. Having thus fixed the warp, to accomplish my wish for making wider lace, I tried to bring the threads to twist in a narrower compass. I first tried a machine with the bobbins spread out, then I tried the flat bobbin. The first flat bobbin was a single tier. I carried up the threads by means of a steeple-top on the carriage. Great difficulty was experienced in getting bobbins and carriages thin enough; the space in which

they were to move being so limited. At last I was driven to the double tier, and thus obtained the requisite space.

"The stocking-frame has certain parts used in my bobbin-net machine; the point-net frame, the warp machine, the Vaucanson loom, even the old weaving-loom, and many others, have all one or more of those mechanical principles or arrangements used in my machine. I do not claim the invention of a bobbin itself, but I had great difficulties to surmount in getting one thin enough. The foundation of my invention was in getting rid of half the threads by the warp beam; but then came the inquiry how the rest were to be got to twist in the proper space. Were this now to be done, my impression is that so great was the difficulty, I should not attempt its accomplishment. I admit the merits of other men. . . . I allow them credit for the application of great and very useful ingenuity; but they have only modified the machine—not invented it. I illustrate the case thus: a child in his first successful effort to walk across a room does all, in fact, that a man does—neither so safely, so rapidly, or so well; but every element of locomotive power is there, and every muscle is in action—he walks as truly as a man."

Nor, indeed, should any one grudge to this ingenious and painstaking inventor the credit of having founded the manufacture of machine-lace, and helped to raise Nottingham to its position of importance among the manufacturing towns of Great Britain, by the construction of a machine described by Ure, in his "Dictionary of Arts," as "surpassing every other branch of industry by the complex ingenuity of its machinery. A bobbin-net frame is as much beyond the most curious chronometer, as that is beyond a roasting-jack."

A great check to the then fast-increasing prosperity of the Nottingham lace-manufacture was given by the Luddite riots, which for several years so discouraged all industry and commerce in the Midlands. Most people know the history of these trade-riots, and that they derived their name from their ring-leader, one Ned Ludd, a Leicestershire stocking-maker, who, tradition asserts, was told by his father to "square his needles"—a term used to describe the process of placing them in a straight row before his machine. Ludd, upon receiving this order, seized his hammer, and beat them to pieces; an act of playful humor which made his name a word for all frame-breaking in times to come. No one who remembers the

dreary years from 1811 to 1816 can recall without pain the utter misery and want which pervaded the manufacturing districts during that period. The prolonged heavy depression of trade produced the usual results among the laboring classes, who were no more careful or provident in those days than in these, and who, then as now, squandered their earnings in time of full work, and were startled to find themselves on the brink of starvation as soon as work ran short. Lace is not an article indispensable to the comfort or well-being of mankind, and is therefore more subject than manufactures of a more strictly useful character to the fluctuation of prosperity or adversity; and the general want of ready money felt all over England at that period, had the immediate consequence of reducing the demand for manufactures of a purely luxurious character, among which lace holds so conspicuous a position. The result was disastrous: thousands of operatives in and about Nottingham were thrown out of employment, and consequently deprived of all means of support for themselves and their families. True to the celebrated axiom of Dr. Watts concerning idle hands and the author of all mischief, the country was soon in a state of disorder and tumult. Strikes prevailed largely both in the lace and hosiery trades of Nottingham, and those who would not work themselves, refused to let others work on the masters' terms; and now the force of Ned Ludd's example began to show itself, in a general attack on the lace and stocking frames whose owners persisted in working them at the reduced wages. At first the more harmless method was adopted of simply removing the jack-wires from the frames, thus rendering work impossible, though without real injury to the machine. The jacks thus abstracted were generally stored safely in a churchyard, or some other secure hiding-place, and on their restoration to their respective frames, work could at once be resumed. This moderate and gentle check upon the "under-price" workers soon palled upon their persecutors, however, and before long the more pronounced and aggressive system of total destruction seems to have come into general favor. Parties of masked and

disguised men began to pervade the town and country round about, and the most open and audacious attacks were made upon private property. Houses were entered, and frames destroyed beyond hope of repair. No lace or stocking maker was safe from the most bold and sudden outrages; and night after night the whole district was appalled by simultaneous descents made upon parishes miles apart by bands of Luddites, who made their way into the dwellings of frame-workers, and by force of numbers overpowered the inhabitants, and shattered their machines into useless fragments. A terror seemed to paralyze the whole country-side, and render it powerless to oppose the terrible and mysterious conspiracy. The very secrecy and silence which enshrouded them, rendered them half supernatural to the simple Nottinghamites; the frame-breakers were masked, armed, and answered to numbers, by which a sort of roll was called by the leader of each gang on the completion of their work of destruction.

A general panic prevailed. No man could tell whether his brother or son might not be among the dreaded Luddites. Men feared to trust their nearest neighbor or most familiar friend, and work was conducted by secrecy and stealth, with locked doors and trembling fingers, lest the next footstep which approached should mean loss of property or life. As the invaders grew more courageous with success, their desires were not satisfied with frame-breaking, but farmhouses were pillaged of money and food, in answer to the cry, "Why should we starve when there are provisions to be had for the taking?"

A large military force which occupied Nottingham was utterly powerless to cope with so secret and daring an organization; nor were they materially assisted by the local yeomanry. Meetings were largely held by the alarmed manufacturers, who expressed in abject terms their willingness to come to an agreement with their riotous work-people—*i.e.*, by a mounted messenger, who rode from village to village making proclamation; and one important firm of frame-owners, by a timely offer of an advance in wages, irrespective of the terms imposed by other makers—an offer impart-

ed in a style suggestive of the fiery cross of the Highlands—saved their three thousand machines from the destruction which would otherwise have befallen them that very night.

Nottingham is described as being at this time in a state of siege. The state of its trade may be imagined; and in spite of a penalty of death having been passed by special Act upon any one breaking a frame employed in any sort of manufacture, no fewer than one thousand stocking-frames and eighty lace-machines were destroyed before the capture and execution of the ringleaders of this riotous movement gave it its death-blow in 1817.

One of the most disastrous results of this rash and lawless outburst was the loss to Nottingham trade of seven hundred lace-machines belonging to Mr. Heathcoat, who, after a daring and ruinous attack upon his property near Loughborough, removed the whole of his manufactory to Devonshire, thus inflicting a blow to the growth and prosperity of the Nottingham market which it has never since recovered. Mr. Heathcoat died in 1861, after a career of useful industry and perseverance, which is beyond praise as an example of what a man may make of his life by a well-directed employment of his own talents. He greatly improved his original bobbin-net patent in later years, and added to it many inventions for ornamenting and figuring lace, and also for manufacturing the beautiful article known as silk net.

In 1813, another important addition to the bobbin-net—or, as it is popularly called, the "Old Loughborough"—machine, was introduced by John Levers of Sutton, who carried out Mr. Heathcoat's idea of arranging all his bobbins and carriages in one tier, and in order to effect this end, constructing them and their corresponding combs of one-half their original thickness. The necessity of this minute fineness of size, which had proved so great a stumbling-block to Mr. Heathcoat, was supplied to Levers by the ingenuity of one of his relations—a clever and accomplished worker in steel, whose experience and skill enabled him to overcome what had previously appeared to be an almost insurmountable difficulty. This invention gave a

new aid and impetus to the languishing trade in Nottingham, and a brilliant prospect of success opened before Levers. He had, however, neither the energy nor the steadiness of application needed to enable him to take advantage of it; and intemperance—that too general curse of the mechanic—effectually prevented his attaining the position which ought to have been his by right.

Levers's machine, though copied in most essential respects from that of Heathcoat, is far more delicate and complex in construction; and, from its capacity for the alteration of meshes, and its fine and finished mechanism, it is so suited to the production of fancy and ornamental work as to be a most valuable invention. Its movements are so rapid since the introduction of power-working, that the eye seeks in vain to follow its countless evolutions; and the skill required in managing it has caused it to pass under the care of only the best and most efficient class of workmen, to whom it affords, through the high standard of goods produced, a comfortable maintenance. A single machine of this kind sometimes produces £18,000 worth of goods in the course of the year—on learning which, one ceases to wonder at the fortunes so rapidly amassed by the Nottingham lace-manufacturers. Mechlin net has been made upon these frames since 1829, and is a very attractive and favorite article, in spite of its fragility.

The fancy branches of lace goods have, since that time, been steadily increasing. Several hundred varieties of nets and laces have been produced and largely supplied to the market, sometimes meeting with a degree of public favor which has continued to the present day, but oftener thrown aside after a run of a few months, in obedience to the inexorable dictates of changing fashion.

The next important step in the lace trade was the introduction of the Pusher machine, the invention of three Nottingham mechanics. This machine differed from the original bobbin-net frame in the movement of the bobbins, which were acted on separately by a "pusher" or governor, instead of, as previously, being moved in pairs. This difference, slight as it may appear, had the advantage of giving much greater scope to



fancy-working, through the improvement it occasioned to the cloth-work.

Steam-power was first applied to lace-manufacture by John Lindley, another self-taught genius, whose original experiments in invention were made with his own hair-comb and a series of cotton balls fastened to its teeth. His patient and courageous struggle with the difficulties of his position led to many important results; and his attempt to unite the lever and traverse warp machines in one, though useless in securing a co-operation of their widely different working-powers, was nevertheless of great value in simplifying the construction and operation of each, and in reducing their motions.

About 1820, the steam and water power which were becoming universally applied to bobbin-net machinery, had the effect of putting down the small frames hitherto worked by hand in laborers' cottages, and bringing the manufacture to a centre in the large factories which now sprang up rapidly in all parts of Nottingham. The immense increase in the amount of goods produced was immediately felt. Money began to pour into the town like a shower of gold, and the excitement and anticipation of the dazzling prospect opened before them raised the minds of the masters and operatives to the highest pitch of intoxication. In fact it was a regular mania, locally known as "the twist-net fever;" and for nearly a twelvemonth prudence and caution were thrown to the winds. Enormous speculations were indulged in; mechanics, who had never studied the working of a lace-machine, were engaged to construct frames of the most complicated character by eager speculators as ignorant as themselves; and the large wages offered and received were spent with a frightful prodigality. Companies were quickly formed, and buildings erected, never to be used; for when, in the following year, the consequences of this unnatural inflation took place, and the bubble burst, the universal despair and consternation were very great. Thousands were plunged into the deepest poverty; many actually died of starvation; some left the country, and others went hopelessly insane, or died by their own act. This sad state of affairs continued for some

years, and it was long before the lace-trade recovered from the shock, especially as even those old-established and steady houses which had weathered the storm, found their abilities of swift production too tempting to be resisted; and, in consequence, the supply so greatly exceeded the demand, that the market was again and again overstocked, and the prices suffered from the constant production.

The year 1832 saw another period of distress to Nottingham, when frame-breaking was once more revived, though not to any great extent; and the Reform riots, and burning of Nottingham Castle, the property of the Duke of Newcastle, capped the climax of this season of want and misery.

In 1835, however, the application of the Jacquard principle to lace-manufacture gave it a fresh start, and from that time until very lately, the progress and prosperity of the trade were almost uninterrupted. The Jacquard apparatus is arranged on a system of perforated cards, so ingenious and elaborate as to render a clear description almost impossible; and probably no account could improve upon that given by Mr. Felkin, which is as follows:

"It is by means of bars attached to springs or levers placed at the ends of the machine, that the various sets of warp threads, whether those sets be fifty or five hundred, are made to move laterally; each bar being of steel, and as long as the machine is wide; and each pierced with holes answering exactly to the particular threads in the pattern, which are, by being passed through these holes, to be guided by the bars to take the place assigned to them in the formation of the pattern. The levers or springs which pull or push the bars to or from the end of the machine, were themselves selected formerly by nobs on wheels or cylinders with irregular surfaces, but are now almost universally by a Jacquard apparatus. This may consist of a four- five- or six-sided roller; each side being perforated with as many holes as there are movable pins or levers placed in a frame above the rolling cylinder. A number of oblong pieces of card-board, from fifty to five hundred, it may be, are connected together in an endless chain, and so arranged as to size, that when one of these cards is laid on one side of the cylinders, and the latter is made to revolve, the whole series will be brought successively in contact with the cylinder, each one lying temporarily on the flat upper side. Every card is pierced with holes varying in number and position, according to the pattern of the lace to be produced, but never more in number

than the pins or levers above, and these holes are so cut as to coincide exactly with those of the cylinder. The cylinder has an up-and-down motion given to it on the presentation of the face of each fresh card, bringing it in contact with the pins, so that wherever a hole occurs in the card, it permits the pin opposite to it to penetrate into the cylinder; but where a blank occurs, by the card not being perforated opposite to a particular pin, the pin cannot enter the cylinder, but is driven upward. As the pins or levers act on the bars that move the threads in the machine, when any of the pins are driven upward, some bars of the thread apparatus are moved laterally; the disposition of the holes in the cards determining the order and number of shiftings of the threads. The number of cards employed depends on the number of successive movements requisite to form one complete pattern. In a store curtain, ten or twelve thousand cards may be required. The arbitrary selection of bobbin-threads is brought about by acting upon the angular or raised parts on the surface of carriages by instruments called, from the duty they perform, pushers, stumps, selectors, etc.—and so moving some carriages while others rest, or causing them to remain inactive while the others are in motion. By these operations, brought about from below or above the combs, the power of the machine to diversify the course of the threads is evidently greatly increased. . . . So long as the machinery works steadily and correctly the workman may be a mere spectator, but he must be a vigilant one. His eye must ever and anon pass from side to side of his machine, noticing the thousands of threads, bobbins, carriages, points, and guides passing in rapid motion before him."

To attempt to describe or explain the whole process of lace-manufacture in even one single branch of the trade is generally acknowledged to be an impossibility. From the long practice needed to acquire the requisite amount of dexterity at any one portion of the manufacture, workmen are kept so exclusively to their special part of the work that they have neither time nor ability to investigate other divisions of the process; hence it is very rarely that even the cleverest artisans either know or comprehend the workings of other machines than those upon which they are themselves engaged. The secrets of the trade are jealously guarded from other manufacturers, and even those outsiders who can by no possible means be suspected of a desire to injure the business by an appropriation to themselves, are seldom able to master the difficulties of this most complicated and involved of all modern manufactures. And, indeed, it has frequently been con-

fessed by those most skilled in the lace-market, that they are unable to explain in writing a process so elaborate and so clouded in technicalities, as to render its comprehension by the general public a hopeless attempt.

Perhaps the most intelligible and most interesting part of the whole manufacture is the designing-room attached to each factory where the drawings for new patterns in lace are invented and carried out. The fine Government School of Art in the town affords every facility for the education of lace-designers, for whom there are special classes at a reduced scale of payment, and the effect of this wise provision has made itself felt in the wonderful improvement in the taste and execution of lace-designs during the last few years. This branch of talent commands the highest remuneration, and many thousands of pounds are annually earned by skilled draughtsmen. Every variety of pattern is produced, from the neat dots and lines of spotted quillings, to the masterpieces of curtains which took medals at all the recent exhibitions. One of these latter presented the unique design of a French window, from which the curtains were gracefully looped back, displaying a broad landscape of sky and sea, the latter adorned with sailing craft—a realistic pattern which, however little it might commend itself to the taste of Sir Charles Eastlake, was nevertheless a marvel of ingenuity, and a striking example of the perfection and completeness to which the lace-manufacture of Nottingham has been brought since the days of Robert Frost's first figured lace-web.

In other lines of the trade this is perhaps even more observable when one notices the almost endless variety of edgings, insertions, etc., in the most exact and minute imitation of Buckingham, Valenciennes, Brussels, and other laces. Perhaps the manufacture of Valenciennes has been carried to the greatest perfection, and the admirable taste and finish of this class of goods cannot be too highly praised. For a long time the chief difference between pillow and machine-made Valenciennes lay in the edge or purl; cushion-lace is necessarily uneven and irregular at the edge, where the threads are twisted around a border pin to form the minute

loop seen on almost all cushion-work, and even imitated by the needle in point-lace. The slight deviations in the pricked pattern, a shade too much or too little tension on the bobbins, and various other causes, all tend to render exact similarity of outline a matter of impossibility; while in the machine, the exactness of the movements and the unchanging arrangement of the bobbins and carriages, produce an accuracy not to be obtained by the most careful efforts of "the free maids who weave their web with bone." Hence, when otherwise puzzled to distinguish the imitation from its copy, those learned in lace had only to examine the edge of the article under inspection to satisfy themselves as to its value. But this was one of those rare cases when accuracy is not the one thing desirable; and the crowning stroke of perfection may be said to have been given to the trade when some inventor produced a machine constructed to form irregularities in the lace it supplied, and to copy even the defects of its original model. The effect was beyond what could have been anticipated, and is such as to deceive all but the most competent judges of lace goods.

Of course these irregularities must have a certain method of arrangement, and a close scrutiny will betray that they occur again and again at regular intervals; but they are so ingeniously disposed, and there is such infinite variety in their size and position, that not only the casual observer, but the more experienced dealer, is sometimes at a loss. It has often been remarked by Nottingham shopmen, that the greatest care is required in keeping their real Valenciennes lace goods strictly apart from their machine-made; for if, by any chance, a piece of the latter should find its way among similar patterns of the former, it would certainly be sold as real; or, if any doubt should happen to be thrown upon its true character, it would need the verdict of a really competent judge of lace to decide the question. The natural consequence of this imitation will at once be perceived; it is taken advantage of by unscrupulous persons, who make an enormous profit out of lace which they buy at almost fabulously low prices from the machine, and sell as hand-made productions; and

there is no doubt that a large proportion of the Valenciennes lace sold at high sums in London shops, and throughout the provinces, has its origin in Nottingham frames.

A very good story, and, what is more, an authenticated one, is told of the wife of a well-known and respected Nottingham manufacturer, who, being with her husband in Paris, and occupied with the colossal shopping which such visits seem inevitably to entail, fell in love with a lace *fichu* of exquisite fineness and delicacy, which was offered to her for the moderate sum of 240 francs. She would instantly have purchased it, had she not been deterred by various mysterious signs of dissuasion from her husband, which surprised her not a little, as she knew him to be a judge of good lace, and wondered, therefore, at his lack of appreciation of this beautiful specimen. She examined the *fichu* again, half doubtfully, but it was soft in texture and beautiful in design—a very cobweb in execution, and anything but dear. She cast one beseeching glance at her husband, but he was grave and inflexible; so with a sign of resigned regret she turned away, and the moment they left the shop her disappointment broke forth:

"John! why did you keep me from buying that lovely thing? And only £10; I am sure you could not think that dear? Why did you not let me have it?"

"You are quite right, my dear;" was the reply of the unmoved John. "We consider that a very superior article; and the reason I did not want you to buy it, is because it came from one of my own frames, and I can let you have as many of the same kind as you like, for fifteen shillings apiece!"

The lace trade in Nottingham gives rise to a number of other manufactures, all connected with, and, in greater or less measure, dependent upon it. Cotton yarn, and silk spinning, machine-making in all its branches of bobbin, carriage, comb, guide, point and needle making, and the setting up of frames; bobbin winding and clearing; the making of paper boxes or *cartons*, for the reception of the finished goods;—beside the many large houses engaged [in bleaching, dressing, gassing (a curious

and interesting process, whereby the loose threads and the floss, or fibre, of lace goods are singed away by the application of the flames of carburetted hydrogen gas), and starching and dressing. Beside all these settled lines of business, there is an almost incredible number of women and children employed in their own houses, "clipping" lace—*i.e.*, cutting off loose threads—and "drawing," separating the breadths by removing the connecting thread with which they are "whipped" together; "scolloping," "carding," or mending. Frequently every member of a large family is engaged in some part of the lace making or finishing; and even the younger ones, or "half-timers," earn a few shillings a week toward the general fund for supporting the household. The wages commanded by good workmen at a time of brisk trade sometimes amount to several pounds weekly, which are, unfortunately, too often spent in the most reckless extravagance, without a thought of provision for the hard times which are but too likely to follow. During a season of prosperity, the families of these operatives enjoy every sort of unwonted luxury: dress well, and sit down daily to better dinners than many poor curates can afford; and it has been said by a prominent manufacturer that his best lace-hands drive to their work every morning in hansom cabs, smoking better cigars than he himself can afford.

The importance of the artisan class in Nottingham is shown very strikingly by the variety of public arrangements for their health, instruction, amusement, and comfort; such as the recreation grounds, free library, mechanics' institute, etc.; while no inconsiderable addition to the improvements of the town is the branch of the South Kensington Museum, established some few years ago in the Town Exchange, but recently removed to the Castle, which has been restored for that express purpose, and forms the finest provincial museum of arts and sciences in the United Kingdom. Great attention is, of course, paid to the lace department in this collection; and the specimens of lace, both pillow and machine-made, occupy a considerable space.

The lace-workers are noticeably free from the stunted and half-fed appear-

ance characteristic of operatives in many other trades; their occupation is healthy and light, and except for the high temperature required in some departments of the trade—such as lace dressing and drying—and the consequent risk to health from the frequent changes of heat and cold, the manufacture is one of the least injurious in existence. The lace girls of Nottingham used to be a proverb for their beauty not a great many years ago; and though no longer perhaps in a position to lay claim to that distinction, through the injury to the complexion and *physique* arising from the closer association in large factories—also from continued intermarriage in the town-bred mechanic class—their healthy well-fed appearance and tasteful attire in times of good trade are proofs of the high position which should be taken by so healthy a manufacture. The numerous factories and warehouses in the town and suburbs present a light and cheerful appearance in times of activity, with the hum and bustle of machinery, and the streams of operatives pouring out and in at the hours of work and recess. The strict sanitary laws prevent overwork, and rigorously confine the work-hours to a limited number; except in the case of those factories working, as is sometimes the case, double hours—*i.e.*, by night as well as by day, when two distinct sets of operatives are employed; and the attention of the masters to the physical and moral well-being of their work-people is, in many cases, very praiseworthy—several warehouses having chapels attached to them, where a short morning service, specially suited to the need of the operatives, is held daily.

This is the pleasant side of the Nottingham lace-trade. The other is more sternly presented to view in times of bad trade, when, instead of working double hours, many factories stand silent and empty, and more have but a small number of machines working to fill the few orders which are eagerly sought for; when, in place of the merry groups of work-girls, in their bright dresses, one sees anxious serious faces, and the look of hopeless gloom beginning to rest upon those whose weary search for work from day to day still meets with the same lack of success; when some are growing



heartsick and discouraged, and some despairing and reckless, and the one cry in every mouth is—"Heaven help us all! what shall we do if the times don't mend?"

Such a dark cloud has but very recently rested upon Nottingham and its lace-trade; and though the sun has begun to shine again, some traces of the storm still linger. The terrible crisis of 1876-78, caused partly by the overstocking of the American market, partly by the depression in trade arising from a caprice of fashion, is still too fresh in the minds of many to need recapitulation. Fashion decreed that lace should cease to be worn, and the trade was almost paralyzed; thousands reduced to the verge of starvation, and dozens of manufacturers ruined. Perhaps the havoc so made alarmed the fickle dame—perhaps she had no reason at all, save whim—at all events, by as sudden a

transition, within the last two years lace once more has risen high in public favor; edgings, scarfs, etc., were demanded in a quantity which taxed the utmost powers of frames and workers to comply with it, and the trade has regained a good measure of its old prosperity for the time being. That a fashion which finds food for a population of many thousands of persons may continue to flourish, must be the wish of every one interested in the fortunes of Nottingham; and to this end let us all join in hoping that the time may be long in coming when ladies again discard as unworthy of their favor so beautiful, so tasteful, so inexpensive, and so becoming an accessory to their toilets, as that afforded by the various designs and exquisite workmanship of that world-renowned article of manufacture, the Nottingham lace.—*Blackwood's Magazine*.

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### A VENETIAN MEDLEY.

BY JAMES ADDINGTON SYMONDS.

#### I.

##### FIRST IMPRESSIONS AND FAMILIARITY.

It is easy to feel and to say something obvious about Venice. The influence of this sea-city is unique, immediate, and unmistakable. But to express the sober truth of those impressions which remain when the first astonishment of the Venetian revelation has subsided, when the spirit of the place has been harmonized through familiarity with our habitual mood, is difficult.

Venice inspires at first an almost Corybantic rapture. From our earliest visits, if these have been measured by days rather than weeks, we carry away with us the memory of sunsets emblazoned in gold and crimson upon cloud and water; of violet domes and bell-towers etched against the orange of a western sky; of moonlight silvering breeze-rippled breadths of liquid blue; of distant islands shimmering in sunlit haze; of music and black gliding boats; of labyrinthine darkness made for mysteries of love and crime; of statue-fretted palace fronts, of brazen clangor and a moving crowd; of pict-

ures by earth's proudest painters, cased in gold on walls of council chambers where Venice sat enthroned a queen, where nobles swept the floors with robes of Tyrian brocade. These reminiscences will be attended by an ever-present sense of loneliness and silence in the world around; the sadness of a limitless horizon, the solemnity of an unbroken arch of heaven, the calm and grayness of evening on the lagoons, the pathos of a marble city crumbling to its grave in mud and brine.

These first impressions of Venice are true. Indeed they are inevitable. They abide, and form a glowing background for all subsequent pictures, toned more austere, and painted in more lasting hues of truth upon the brain. Those have never felt Venice at all who have not known this primal rapture—or who perhaps expected more of color, more of melodrama, from a scene which nature and the art of man have made the richest in these qualities. Yet the mood engendered by this first experience is not destined to be permanent. It contains an element of unrest and unreality which vanishes upon familiarity. From

the blare of that triumphal buordon of brass instruments emerge the delicate voices of violin and clarinette. To the contrasted passions of our earliest love succeed a multitude of sweet and fanciful emotions. It is my present purpose to recapture some of the impressions made by Venice in more tranquil moods. Memory might be compared to a kaleidoscope. Far away from Venice I raise the wonder-working tube, allow the glittering fragments to settle as they please, and with words attempt to render something of the patterns I behold.

## II.

### A LODGING IN SAN VIO.

I HAVE escaped from the hotels with their bustle of tourists and crowded tables-d'hôte. My garden stretches down to the Grand Canal, closed at the end with a pavilion, where I lounge and smoke and watch the cornice of the Prefettura fretted with gold in sunset light. My sitting-room and bedroom face the southern sun. There is a canal below, crowded with gondolas, and across its bridge the good folk of San Vio come and go the whole day long—men in blue shirts with enormous hats, and jackets slung on their left shoulder; women in kerchiefs of orange and crimson. Bare-legged boys sit upon the parapet, dangling their feet above the rising tide. A hawkler passes, balancing a basket full of live and crawling crabs. Barges filled with Brenta water or Mirano wine take up their station at the neighboring steps, and then ensues a mighty splashing and hurrying to and fro of men with tubs upon their heads. The brawny fellows in the wine-barge are red from brows to breast with drippings of the vat. And now there is a bustle in the quarter. A *barca* has arrived from S. Erasmo, the island of the market-gardens. It is piled with gourds and pumpkins, cabbages and tomatoes, pomegranates and pears—a pyramid of gold and green and scarlet. Brown men lift the fruit aloft, and women bending from the pathway bargain for it. A clatter of chaffering tongues, a ring of coppers, a Babel of hoarse sea-voices, proclaim the sharpness of the struggle. When the quarter has been served, the boat sheers off diminished in its burden.

Boys and girls are left seasoning their polenta with a slice of *zucca*, while the mothers of a score of families go pattering up yonder courtyard with the material for their husbands' supper in their handkerchiefs. Across the canal, or more correctly the *Rio*, opens a wide grass-grown court. It is lined on the right hand by a row of poor dwellings, swarming with gondoliers' children. A garden wall runs along the other side, over which I can see pomegranate trees in fruit and pergolas of vines. Far beyond are more low houses, and then the sky, swept with sea breezes, and the masts of an ocean-going ship against the dome and turrets of Palladio's Redentore. This is my home. By day it is as lively as a scene in *Masaniello*. By night, after nine o'clock, the whole stir of the quarter has subsided. Far away I hear the bell of some church tell the hours. But no noise disturbs my rest, unless perhaps a belated gondolier moors his boat beneath the window. My one maid, Catina, sings at her work the whole day through. My gondolier, Francesco, acts as valet. He wakes me in the morning, opens the shutters, brings sea-water for my bath, and takes his orders for the day. "Will it do for Chioggia, Francesco?" "Sissignore! The Signorino has set off in his *sandolo* already with Antonio. The Signora is to go with us in the gondola." "Then get three more men, Francesco, and see that all of them can sing."

## III.

### TO CHIOGGIA WITH OAR AND SAIL.

THE *sandolo* is a boat shaped like the gondola, but smaller and lighter, without benches, and without the high steel prow or *ferro* which distinguishes the gondola. The gunwale is only just raised above the water, over which the little craft skims with a rapid bounding motion, affording an agreeable variation from the stately swan-like movement of the gondola. In one of these boats—called by him the *Fisolo* or Sea Mew—my friend had started with Antonio, intending to row the whole way to Chioggia, or, if the breeze favored, to hoist a sail and help himself along. After breakfast, when the crew for my gondola had been assembled, Francesco and I

followed with the Signora. It was one of those perfect mornings which occur as a respite from broken weather, when the air is windless and the light falls soft through haze on the horizon. As we broke into the lagoon behind the Rendotore, the islands in front of us, S. Spirito, Poveglia, Malamocco, seemed as though they were just lifted from the sea-line. The Euganeans, far away to westward, were bathed in mist, and almost blended with the blue sky. Our four rowers put their backs into their work, and soon we reached the port of Malamocco, where a breeze from the Adriatic caught us sideways for a while. This is the largest of the breaches in the Lidi, or raised sand-reefs, which protect Venice from the sea; it affords an entrance to vessels of draught like the steamers of the Peninsular and Oriental Company. We crossed the dancing wavelets of the port, but when we passed under the lee of Pelestrina the breeze failed, and the lagoon was once again a sheet of undulating glass. At S. Pietro on this island a halt was made to give the oarsmen wine, and here we saw the women at their cottage doorways making lace. The old lace industry of Venice has recently been revived. From Burano and Pelestrina cargoes of hand-made imitations of the ancient fabrics are sent at intervals to Jesurun's magazine at S. Marco. He is the chief *impresario* of the trade, employing hundreds of hands, and speculating for a handsome profit in the foreign market on the wretched price he gives his work-women.

Now we are well lost in the lagoons—Venice no longer visible behind; the Alps and Euganeans shrouded in a noon-day haze; the lowlands at the mouth of Brenta marked by clumps of trees ephemerally faint in silver silhouette against the filmy, shimmering sky. Form and color have disappeared in light-irradiated vapor of an opal hue. And yet instinctively we know that we are not at sea; the different quality of the water, the piles emerging here and there above the surface, the suggestion of coast-lines scarcely felt in this infinity of lustre, all remind us that our voyage is confined to the charmed limits of an inland lake. At length the jutting headland of Pelestrina was reached. We

broke across the Porto di Chioggia, and saw Chioggia itself ahead—a huddled mass of houses low upon the water. One by one, as we rowed steadily, the fishing boats passed by, emerging from their harbor for a twelve hours' cruise upon the open sea. In a long line they came, with variegated sails of orange, red, and saffron, curiously checkered at the corners, and canted with devices in contrasted tints. A little land-breeze carried them forward. The lagoon reflected their deep colors till they reached the port. Then, slightly swerving eastward on their course, but still in single file, they took the sea and scattered, like beautiful bright-plumaged birds, who from a streamlet float into a lake, and find their way at large according as each wills.

The Signorino and Antonio, though want of wind obliged them to row the whole way from Venice, had reached Chioggia an hour before, and stood waiting to receive us on the quay. It is a quaint town, this Chioggia, which has always lived a separate life from that of Venice. Language and race and customs have held the two populations apart, from those distant years when Genoa and the Republic of St. Mark fought their duel to the death out in the Chioggian harbors, down to these days, when your Venetian gondolier will tell you that the Chioggoto loves his pipe more than his *donna* or his wife. The main canal is lined with substantial palaces, attesting to old wealth and comfort. But from Chioggia, even more than from Venice, the tide of modern luxury and traffic has retreated. The place is left to fishing folk and builders of the fishing craft, whose wharves still form the liveliest quarter. Wandering about its wide deserted courts and *calli*, we feel the spirit of the decadent Venetian nobility. Passages from Goldoni's and Casanova's Memoirs occur to our memory. It seems easy to realize what they wrote about the dishevelled gayety and lawless license of Chioggia in the days of powder, sword-knot, and *soprani*. Baffo walks beside us in hypocritical composure of bag-wig and senatorial dignity, whispering unmentionable sonnets in his dialect of *Xe* and *Ga*. Somehow or another that last dotage of St. Mark's decrepi-

tude is more recoverable by our fancy than the heroism of Pisani in the fourteenth century. From his prison in blockaded Venice the great admiral was sent forth on a forlorn hope, and blocked victorious Doria here with boats on which the nobles of the Golden Book had spent their fortunes. Pietro Doria boasted that with his own hands he would bridle the bronze horses of St. Mark. But now he found himself between the navy of Carlo Zeno in the Adriatic and the flotilla led by Vittore Pisani across the lagoon. It was in vain that the Republic of St. George strained every nerve to send him succor from the Ligurian sea; in vain that the lords of Padua kept opening communications with him from the main land. From the 1st of January, 1380, till the 21st of June the Venetians pressed the blockade ever closer, grappling their foemen in a grip that if relaxed one moment would have hurled him at their throats. The long and breathless struggle ended in the capitulation at Chioggia of what remained of Doria's forty-eight galleys and fourteen thousand men. These great deeds are far away and hazy. The brief sentences of mediæval annalists bring them less near to us than the *chroniques scandaleuses* of good-for-nothing scoundrels, whose vulgar adventures might be revived at the present hour with scarce a change of setting. Such is the force of *intimité* in literature. And yet Baffo and Casanova are as much of the past as Doria and Pisani. It is only perhaps that the survival of decadence in all we see around us forms a fitting framework for our recollections of their vividly described corruption.

Not far from the landing-place a balustraded bridge of ample breadth and large bravura manner spans the main canal. Like everything at Chioggia, it is dirty and has fallen from its first estate. Yet neither time nor injury can obliterate style or wholly degrade marble. Hard by the bridge there are two rival inns. At one of these we ordered a sea dinner—crabs, cuttlefishes, soles, and turbot—which we ate at a table in the open air. Nothing divided us from the street except a row of Japanese privet-bushes in hooped tubs. Our banquet soon assumed a somewhat unpleasant similitude to that of Dives,

for the Chioggoti, in all stages of decrepitude and squalor, crowded round to beg for scraps—indescribable old women, enveloped in their own petticoats thrown over their heads; girls hooded with sombre black mantles; old men wrinkled beyond recognition by their nearest relatives; jabbering, half-naked boys; slow, slouching fishermen with clay pipes in their mouths and philosophical acceptance on their sober foreheads.

That afternoon the gondola and sandolo were lashed together side by side. Two sails were raised, and in this lazy fashion we stole homeward, faster or slower according as the breeze freshened or slackened, landing now and then on islands, sauntering along the sea-walls which bulwark Venice from the Adriatic, and singing—those at least of us who had the power to sing. Four of our Venetians had trained voices and memories of inexhaustible music. Over the level water, with the ripple plashing at our keel, their songs went abroad, and mingled with the failing day. The barcaroles and serenades peculiar to Venice were, of course, in harmony with the occasion. But some transcripts from classical operas were even more attractive, through the dignity with which these men invested them. By the peculiarity of their treatment the *recitativo* of the stage assumed a solemn movement, marked in rhythm, which removed it from the commonplace into antiquity, and made me understand how cultivated music may pass back by natural, unconscious transition into the realm of popular melody.

The sun sank, not splendidly, but quietly in banks of clouds above the Alps. Stars came out, uncertainly at first, and then in strength, reflected on the sea. The men of the Dogana watch-boat challenged us and let us pass. Madonna's lamp was twinkling from her shrine upon the harbor-pile. The city grew before us. Stealing into Venice in that calm, stealing silently and shadow-like, with scarce a ruffle of the water, the masses of the town emerging out of darkness into twilight, till San Giorgio's gun boomed with a flash athwart our stern, and the gas-lamps of the Piazzetta swam into sight; all this was like a long enchanted chapter of romance. And



now the music of our men had sunk to one faint whistling from my friend of tunes in harmony with whispers at the prow.

Then came the steps of the Palazzo Venier, and the deep-scented darkness of the garden. As we passed through to supper, I plucked a spray of yellow *Banksia* rose, and put it in my button-hole. The dew was on its burnished leaves, and evening had drawn forth its perfume.

## IV.

## MORNING RAMBLES.

A STORY is told of Poussin, the French painter, that when he was asked why he would not stay in Venice, he replied, "If I stay here, I shall become a colorist!" A somewhat similar tale is reported of a fashionable English decorator. While on a visit to friends in Venice he avoided every building which contains a Tintoretto, averring that the sight of Tintoretto's pictures would injure his carefully trained taste. It is probable that neither anecdote is strictly true. Yet there is a certain epigrammatic point in both; and I have often speculated whether even Venice could have so warped the genius of Poussin as to shed one ray of splendor on his canvases, or whether even Tintoretto could have so sublimed the prophet of Queen Anne as to make him add dramatic passion to a London drawing-room. Anyhow, it is exceedingly difficult to escape from color in the air of Venice, or from Tintoretto in her buildings. Long, delightful mornings may be spent in the enjoyment of the one and the pursuit of the other by folk who have no classical or pseudo-mediæval theories to oppress them.

Tintoretto's house, though changed, can still be visited. It formed part of the *Fondamenta dei Mori*, so called from having been the quarter assigned to Moorish traders in Venice. A spirited carving of a turbaned Moor leading a camel charged with merchandise remains above the water-line of a neighboring building, and all about the crumbling walls spout-flowering weeds—sapphire and snapdragon and the spiked campanula, which shoots a spire of sea-blue stars from chinks of Istrian stone.

The house stands opposite the Church

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of Santa Maria dell' Orto, where Tintoretto was buried, and where four of his chief masterpieces are to be seen. This church, swept and garnished, is a triumph of modern Italian restoration. They have contrived to make it as commonplace as human ingenuity could manage. Yet no malice of ignorant industry can obscure the treasures it contains—the pictures of Cima, Gian Bellini, Palma, and the four Tintoretts, which form its crowning glory. Here the master may be studied in four of his chief moods: as the painter of tragic passion and movement, in the huge *Last Judgment*; as the painter of impossibilities, in the *Vision of Moses* upon Sinai; as the painter of purity and tranquil pathos, in the *Miracle of St. Agnes*; as the painter of Biblical history brought home to daily life, in the *Presentation of the Virgin*. Without leaving the *Madonna dell' Orto*, a student can explore his genius in all its depth and breadth; comprehend the enthusiasm he excites in those who seek, as the essentials of art, imaginative boldness and sincerity; understand what is meant by adversaries who maintain that, after all, Tintoretto was but an inspired *Gustave Doré*. Between that quiet canvas of the *Presentation*, so modest in its cool grays and subdued gold, and the tumult of flying, ruining, ascending figures in the *Judgment*, what an interval there is! How strangely the white lamb-like maiden, kneeling beside her lamb in the picture of *St. Agnes*, contrasts with the dusky gorgeousness of the Hebrew women despoiling themselves of jewels for the golden calf! Comparing these several manifestations of creative power, we feel ourselves in the grasp of a painter who was essentially a poet, one for whom his art was the medium for expressing before all things thought and passion. Each picture is executed in the manner suited to its tone of feeling, the key of its conception.

Elsewhere than in the *Madonna dell' Orto* there are more distinguished single examples of Tintoretto's realizing faculty. The "*Last Supper*" in San Giorgio, for instance, and the "*Adoration of the Shepherds*" in the *Scuola di San Rocco* illustrate his unique power of presenting sacred history in a novel, romantic framework of familiar things.

The most commonplace circumstances of ordinary life have been employed to portray in the one case a lyric of mysterious splendor; in the other, an idyl of infinite sweetness. Divinity shines through the rafters of that upper chamber, where round the low large table the Apostles are assembled in a group translated from the social customs of the painter's days. Divinity is shed upon the straw-spread manger, where Christ lies sleeping in the loft, with shepherds crowding through the room beneath.

A studied contrast between the simplicity and repose of the central figure and the tumult of passions in the multitude around may be observed in the "Miracle of St. Agnes." It is this which gives dramatic vigor to the composition. But the same effect is carried to its highest fulfilment, with even a loftier beauty, in the episode of Christ before the Judgment-seat of Pilate, at San Rocco. Of all Tintoretto's religious pictures that is the most profoundly felt, the most majestic. No other artist succeeded as he has here succeeded in presenting to us God incarnate. For this Christ is not merely the just man, innocent, silent before his accusers. The stationary, white-draped figure raised high above the agitated crowd, with tranquil forehead slightly bent, facing his perplexed and fussy judge, is more than man. We cannot say perhaps precisely why he is divine. But Tintoretto has made us feel that he is. In other words, his treatment of the high theme chosen by him has been adequate.

We must seek the Scuola di San Rocco for examples of Tintoretto's liveliest imagination. Without ceasing to be Italian in his attention to harmony and grace, he far exceeded the masters of his nation in the power of suggesting what is weird, mysterious, upon the border-land of the grotesque. And of this quality there are three remarkable instances in the Scuola. No one but Tintoretto could have evoked the fiend in his "Temptation of Christ." It is an indescribable hermaphroditic genius, the genius of carnal fascination, with outspread downy rose-plumed wings, and flaming bracelets on the full, plump arms, who kneels and lifts aloft great stones, smiling entreatingly to the sad,

gray Christ seated beneath a rugged pent-house of the desert. No one again but Tintoretto could have dashed the hot lights of that fiery sunset in such quivering flakes upon the golden flesh of Eve, half-hidden among laurels, as she stretches forth the fruit of the Fall to shrinking Adam. No one but Tintoretto, till we come to Blake, could have imagined yonder Jonah, summoned by the beck of God from the whale's belly. The monstrous fish rolls over in the ocean, blowing portentous vapor from his trumpet-shaped nostril. The prophet's beard descends upon his naked breast in hoary ringlets to the girdle. He has forgotten the past peril of the deep, although the whale's jaws yawn around him. Between him and the outstretched finger of Jehovah calling him again to life there runs a spark of unseen spiritual electricity.

To comprehend Tintoretto's touch upon the pastoral idyl we must turn our steps to San Giorgio again, and pace those meadows by the running river in company with his Manna-Gatherers. Or we may seek the Accademia, and notice how he here has varied the "Temptation of Adam by Eve," choosing a less tragic motive of seduction than the one so powerfully rendered at San Rocco. Or in the Ducal Palace we may take our station, hour by hour, before the "Marriage of Bacchus and Ariadne." It is well to leave the very highest achievements of art, untouched by criticism, undescribed. And in this picture we have the most perfect of all modern attempts to realize an antique myth—more perfect than Raphael's "Galatea" or Titian's "Meeting of Bacchus with Ariadne," or Botticelli's "Birth of Venus from the Sea." It may suffice to marvel at the slight effect which melodies so powerful and so direct as these produce upon the ordinary public. Sitting, as is my wont, one Sunday morning, opposite the "Bacchus," four Germans with a cicerone sauntered by. The subject was explained to them. They waited an appreciable space of time. Then the youngest opened his lips and spake: "Bacchus war der Wein-Gott." And they all moved heavily away. *Bos locutus est.* "Bacchus was the Wine-god!" This, apparently, is what a picture tells to one man.

To another it presents divine harmonies, perceptible indeed in nature, but here by the painter-poet for the first time brought together and cadenced in a work of art. For another it is perhaps the hieroglyph of pent-up passions and desired impossibilities. For yet another it may only mean the unapproachable inimitable triumph of consummate craft.

Tintoretto, to be rightly understood, must be sought all over Venice—in the church as well as the Scuola di San Rocco; in the "Temptation of St. Anthony" at St. Trovaso no less than in the Temptations of Eve and Christ; in the decorative pomp of the Sala del Senato, and in the Paradisal vision of the Sala del Gran Consiglio. Yet, after all, there is one of his most characteristic moods, to appreciate which fully we return to the Madonna dell' Orto. I have called him "the painter of impossibilities." At rare moments he rendered them possible by sheer imaginative force. If we wish to realize this phase of his creative power, and to measure our own subordination to his genius in its most hazardous enterprise, we must spend much time in the choir of this church. Lovers of art who mistrust this play of the audacious fancy—aiming at sublimity in supersensual regions, sometimes attaining to it by stupendous effort or authentic revelation, not seldom sinking to the verge of bathos, and demanding the assistance of interpretative sympathy in the spectator—such men will not take the point of view required of them by Tintoretto in his boldest flights, in the "Worship of the Golden Calf" and in the "Destruction of the World by Water." It is for them to ponder well the flying archangel with the scales of judgment in his hand, and the seraph-charioted Jehovah enveloping Moses upon Sinai in lightnings.

The gondola has had a long rest. Were Francesco but a little more impatient, he might be wondering what had become of the padrone. I bid him turn, and we are soon gliding into the Sacca della Misericordia. This is a protected float, where the wood which comes from Cadore and the hills of the Ampezzo is stored in spring. Yonder square white house, standing out to sea, fronting Murano and the Alps, they call

the Casa degli Spiriti. No one cares to inhabit it; for here, in old days, it was the wont of the Venetians to lay their dead for a night's rest before their final journey to the graveyard of S. Michele. So many generations of dead folk had made that house their inn, that it is now no fitting home for living men. San Michele is the island close before Murano, where the Lombardi built one of their most romantically graceful churches of pale Istrian stone, and where the Campo Santo has for centuries received the dead into its oozy clay. The cemetery is at present undergoing restoration. Its state of squalor and abandonment to cynical disorder makes one feel how fitting for Italians would be the custom of cremation. An Island in the lagoons devoted to funeral pyres is a solemn and ennobling conception. This graveyard, with its ruinous walls, its mangy riot of unwholesome weeds, its corpses festering in slime beneath neglected slabs in hollow chambers, and the mephitic wash of poisoned waters that surround it, inspires the horror of disgust.

The morning has not lost its freshness. Antelao and Tofana, guarding the vale above Cortina, show faint streaks of snow upon their amethyst. Little clouds hang in the still autumn sky. There are men dredging for shrimps and crabs through shoals uncovered by the ebb. Nothing can be lovelier, more resting to eyes tired with pictures than this tranquil, sunny expanse of the lagoon. As we round the point of the Bersaglio new landscapes of island and Alp and low-lying mainland move into sight at every slow stroke of the oar. A luggage-train comes lumbering along the railway bridge, puffing white smoke into the placid blue. Then we strike down Cannaregio, and I muse upon processions of kings and generals and noble strangers, entering Venice by this water-path from Mestre, before the Austrians built their causeway for the trains. Some of the rare scraps of fresco upon house fronts, still to be seen in Venice, are left in Cannaregio. They are chiaroscuro allegories in a bold bravura manner of the sixteenth century. From these and from a few rosy fragments on the Fondaco dei Tedeschi, the Fabbriche Nuove, and precious fad-

ing figures in a certain courtyard near San Stefano, we form some notion how Venice looked when all her palaces were painted. Pictures by Gentile Bellini, Mansueti, and Carpaccio help the fancy in this work of restoration. And here and there, in back canals, we come across colored sections of old buildings, capped by true Venetian chimneys, which for a moment seem to realize our dream.

A morning with Tintoretto might well be followed by a morning with Carpaccio or Bellini. But space is wanting in these pages. Nor would it suit the manner of this medley to hunt the Lombardi through palaces and churches, pointing out their singularities of violet and yellow panellings in marble, the dignity of their wide-opened arches, or the delicacy of their shallow chiselled traceries in cream white Istrian stone. It is enough to indicate the goal of many a pleasant pilgrimage; warrior angels of Vivarini and Basaiti, hidden in a dark chapel of the Frari; Fra Francesco's fantastic orchard of fruits and flowers in distant S. Francesco della Vigna; the golden Gian Bellini in S. Zaccaria; Palma's majestic S. Barbara in S. Maria Formosa; San Giobbe's wealth of sculptured frieze and floral scroll; the Ponte di Paradiso, with its Gothic arch; the painted plates in the Museo Civico; and palace after palace, loved for some quaint piece of tracery, some moulding full of mediæval symbolism, some fierce impossible Renaissance freak of fancy.

#### V.

#### ON THE LAGOONS.

THE mornings are spent in study, sometimes among pictures, sometimes in the Marcian Library, or again in those vast convent chambers of the Frari, where the archives of Venice load innumerable shelves. The afternoons invite us to a further flight upon the water. Both sandolo and gondola await our choice; and we may sail or row, according as the wind and inclination tempt us.

Yonder lies San Lazzaro, with the neat red buildings of the Armenian convent. The last oleander blossoms shine rosy pink above its walls against the pure blue sky, as we glide into the little har-

bor. Boats piled with coal-black grapes block the landing-place, for the Padri are gathering their vintage from the Lido, and their presses run with new wine. My friend and I have not come to revive memories of Byron—that curious patron saint of the Armenian colony—or to inspect the printing press, which issues books of little value for our studies. It is enough to pace the terrace, and linger half an hour beneath the low broad arches of the alleys pleached with vines, through which the domes and towers of Venice rise more beautiful by distance.

Malamocco lies considerably further, and needs a full hour of stout rowing to reach it. Alighting there, we cross the narrow strip of land, and find ourselves upon the huge sea-wall—block piled on block of Istrian stone in tiers and ranks, with cunning breathing-places for the waves to wreak their fury on, and foam their force away in fretful waste. The very existence of Venice may be said to depend on these *murassi*, which were finished at an immense cost by the Republic in the days of its decadence. The enormous monoliths which compose them had to be brought across the Adriatic in sailing vessels. Of all the Lidi, that of Malamocco is the weakest; and here, if anywhere, the sea might effect an entrance into the lagoon. Our gondoliers told us of some places where the *murassi* were broken in a gale, or *scioccale*, not very long ago. Lying awake in Venice, when the wind blows hard, one hears the sea thundering upon its sandy barrier, and blesses God for the *murassi*. On such a night it happened once to me to dream a dream of Venice overwhelmed by water. I saw the billows roll across the smooth lagoon like a gigantic Eager. The Ducal Palace crumbled, and San Marco's domes went down. The Campanile rocked and shivered like a reed. And all along the Grand Canal the palaces swayed helpless, tottering to their fall, while boats piled high with men and women strove to stem the tide, and save themselves from those impending ruins. It was a mad dream, born of the sea's roar and Tintoretto's painting. But this afternoon no such visions are suggested. The sea sleeps, and in the moist autumn air we break tall branches of the seeded



yellowing samphire from hollows of the rocks, and bear them homeward in a wayward bouquet mixed with cobs of Indian corn.

Fusina is another point for these excursions. It lies at the mouth of the Canal di Brenta, where the mainland ends in marsh and meadows, intersected by broad renes. In spring the ditches bloom with fleurs-de-lis. In autumn they take sober coloring from lilac daisies and the delicate sea-lavender. Scores of tiny plants are turning scarlet on the brown moist earth; and when the sun goes down behind the Euganean hills, his crimson canopy of cloud, reflected on these shallows, muddy shoals and wilderness of matted weeds, converts the common earth into a fairyland of fabulous dyes. Purple, violet, and rose are spread around us. In front stretches the lagoon, tinted with a pale light from the east, and beyond this pallid mirror shines Venice—a long low broken line, touched with the softest roseate flush. Ere we reach the Giudecca on our homeward way sunset has faded. The western skies have clad themselves in green, barred with dark fire-rimmed clouds. The Euganean hills stand like stupendous pyramids, Egyptian, solemn, against a lemon space on the horizon. The far reaches of the lagoons, the Alps, and islands assume those tones of glowing lilac which are the supreme beauty of Venetian evening. Then, at last, we see the first lamps glitter on the Zattere. The quiet of the night has come.

Words cannot be formed to express the endless varieties of Venetian sunset. The most magnificent follow after wet stormy days, when the west breaks suddenly into a labyrinth of fire, when chasms of clear turquoise heavens emerge, and horns of flame are flashed to the zenith, and unexpected splendors scale the fretted clouds, step over step, stealing along the purple caverns till the whole dome throbs. Or, again, after a fair day, a change of weather approaches, and high, infinitely high, the skies are woven over with a web of half-transparent cirrus-clouds. These in the afterglow blush crimson, and through their rifts the depth of heaven is of a hard and gem-like blue, and all the water turns to rose beneath them. I re-

member one such evening near Torcello. We were well out at sea between Mazzorbo and Murano. The ruddy arches overhead were reflected without interruption in the waveless ruddy lake below. Our black boat was the only dark spot in this sphere of splendor. We seemed to hang suspended; and such as this, I fancied, must be the feeling of an insect caught in the heart of a fiery-petalled rose. Yet not these melodramatic sunsets alone are beautiful. Even more exquisite, perhaps, are the lagoons, painted in monochrome of grays, with just one touch of pink upon a western cloud, scattered in ripples here and there on the waves below, reminding us that day has passed and evening come. And beautiful again are the calm settings of fair weather, when sea and sky alike are cheerful, and the topmost blades of the lagoon grass, peeping from the shallows, glance like emeralds upon the surface. There is no deep stirring of the spirit in a symphony of light and color. But purity, peace, and freshness make their way into our hearts.

## VI.

### AT THE LIDO.

Of all these afternoon excursions, that to the Lido is most frequent. It has two points for approach. The more distant is the little station of San Nicoletto, at the mouth of the Porto. With an ebb-tide, the water of the lagoon runs past the mulberry gardens of this hamlet like a river. There is here a grove of acacia trees, shadowy and dreamy, above deep grass, which even an Italian summer does not wither. The Riva is fairly broad, forming a promenade, where one may conjure up the personages of a century ago. For San Nicoletto used to be a fashionable resort before the other points of Lido had been occupied by pleasure-seekers. An artist even now will select its old-world quiet, leafy shade, and prospect through the islands of Vignole and Sant' Erasmo to snow-touched peaks of Antelao and Tofana, rather than the glare and bustle and extended view of Venice which its rival Sant' Elisabetta offers.

But when we want a plunge into the Adriatic, or a stroll along smooth sands, or a breath of genuine sea-breeze, or a

handful of horned poppies from the dunes, or a lazy half-hour's contemplation of a limitless horizon flecked with russet sails, then we seek Sant' Elisabetta. Our boat is left at the landing-place. We saunter across the island and back again. Antonio and Francesco wait and order wine, which we drink with them in the shade of the little *osteria's* wall.

A certain afternoon in May I well remember, for this visit to the Lido was marked by one of those apparitions which are as rare as they are welcome to the artist's soul. I have always held that in our modern life the only real equivalent for the antique mythopoeic sense—that sense which enabled the Hellenic race to figure for themselves the powers of earth and air, streams and forests, and the presiding genii of places, under the forms of living human beings—is supplied by the appearance at some felicitous moment of a man or woman who impersonates for our imagination the essence of the beauty that environs us. It seems, at such a fortunate moment, as though we had been waiting for this revelation, although perchance the want of it had not been previously felt. Our sensations and perceptions test themselves at the touchstone of this living individuality. The keynote of the whole music dimly sounding in our ears, is struck. A melody emerges, clear in form and excellent in rhythm. The landscapes we have painted on our brain no longer lack their central figure. The life proper to the complex conditions we have studied is discovered, and every detail, judged by this standard of vitality, falls into its right relations.

I had been musing long that day and earnestly upon the mystery of the lagoons, their opaline transparencies of air and water, their fretful risings and sudden subsidence into calm, the treacherousness of their shoals, the sparkle and the splendor of their sunlight. I had asked myself how would a Greek sculptor have personified the elemental deity of these salt-water lakes, so different in quality from the *Ægean* or *Ionian* sea? What would he find distinctive of their spirit? The Tritons of these shallows must be of other form and lineage than the fierce-eyed youth who blows

his conch upon the curled crest of a wave, crying aloud to his comrades, as he bears the nymph away to caverns where the billows plunge in tideless instability.

We had picked up shells and looked for sea-horses on the Adriatic shore. Then we returned to give our boatmen wine beneath the vine-clad *pergola*. Four other men were there, drinking, and eating from a dish of fried fish set upon the coarse white linen cloth. Two of them soon rose and went away. Of the two who stayed, one was a large, middle-aged man; the other was still young. He was tall and sinewy, but slender, for these Venetians are rarely massive in their strength. Each limb is equally developed by the exercise of rowing upright, bending all the muscles to their stroke. Their bodies are elastically supple, with free sway from the hips and a Mercurial poise upon the ankle. Stefano showed these qualities almost in exaggeration. The type in him was refined to its artistic perfection. Moreover, he was rarely in repose, but moved with a singular brusque grace. A black broad-brimmed hat was thrown back upon his matted *zassera* of dark hair tipped with dusky brown. Its flakes, cut square, and falling wilfully, reminded me of the lagoon grass when it darkens in autumn upon uncovered shoals, and sunset gilds its sombre edges. Fiery gray eyes beneath it gazed intensely, with compulsive effluence of electricity. It was the wild glance of a Triton. Short blonde mustache, dazzling teeth, skin bronzed, but showing white and healthful through open front and sleeves of lilac shirt. The dashing sparkle of this animate splendor, who looked to me as though the sea-waves and the sun had made him in some hour of secret and unquiet rapture, was somehow emphasized by a curious dint dividing his square chin—a cleft that harmonized with smile on lip and steady flame in eyes. I hardly know what effect it would have upon a reader to compare eyes to opals. Yet Stefano's eyes, as they met mine, had the vitreous intensity of opals, as though the color of Venetian waters were vitalized in them. This noticeable being had a rough hoarse voice, which, to develop the parallel with a sea-god, might have screamed in

storm, or whispered raucous messages from crests of tossing billows.

I felt, as I looked, that here, for me at least, the mythopœm of the lagoons was humanized; the spirit of the salt-water lakes had appeared to me; the final touch of life emergent from nature had been given. I was satisfied; for I had seen a poem.

Then we rose, and wandered through the Jews' cemetery. It is a quiet place, where the flat gravestones, inscribed in Hebrew and Italian, lie deep in Lido sand, waved over with wild grass and poppies. I would fain believe that no neglect, but rather the fashion of this folk, had left the monuments of generations to be thus resumed by nature. Yet, knowing nothing of the history of this burial ground, I dare not affirm so much. There is one outlying piece of the cemetery which seems to contradict my charitable interpretation. It is not far from San Nicoletto. No enclosure marks it from the unconsecrated dunes. Acacia trees sprout amid the monuments, and break the tablets with their thorny shoots upthrusting from the soil. Where patriarchs and rabbis sleep for centuries the fishers of the sea now wander, and defile these habitations of the dead—

Corruption most abhorred  
Mingling itself with their renowned ashes.

Some of the grave-stones have been used to fence the towing-path; and one I saw, well carved with letters legible of Hebrew on fair Istrian marble, which roofed an open drain leading from the stable of a Christian dog.

## VII.

### A VENETIAN RESTAURANT.

AT the end of a long glorious day, unhappy is that mortal whom the Hermes of a cosmopolitan hotel, white-chokered and white-waistcoated, marshals to the Hades of the *table-d'hôte*. The world has often been compared to an inn; but on my way down to this common meal I have, not unfrequently, felt fain to reverse the simile. From their separate stations, at the appointed hour, the guests like ghosts flit to a gloomy gas-lit chamber. They are of various speech and race, preoccupied with divers interests and cares. Neces-

sity and the waiter drive them all to a sepulchral syssition, whereof the cook too frequently deserves that old Greek comic epithet—*ἄδων μάγειρος*—cook of the Inferno. And just as we are told that in Charon's boat we shall not be allowed to pick our society, so here we must accept what fellowship the fates provide. An English spinster retailing paradoxes culled to-day from Ruskin's handbooks; an American citizen describing his jaunt in a gondola from the railway station; a German shopkeeper descanting in one breath on Baur's Bock and the beauties of the Marcusplatz; an intelligent æsthete bent on working into clearness his own views of Carpaccio's genius; all these in turn, or all together, must be suffered gladly through well-nigh two long hours. Uncomforted in soul we rise from the expensive banquet; and how often rise from it unfed!

Far other be the doom of my own friends—of pious bards and genial companions, lovers of natural and lovely things! Nor for these do I desire a seat at Florian's marble tables, or a perch in Quadri's window, though the former supply dainty food, and the latter command a bird's-eye view of the Piazza. Rather would I lead them to a certain humble tavern on the Zattere. It is a quaint, low-built, unpretending little place, near a bridge, with a garden hard by which sends a cataract of honeysuckles sunward over a too-jealous wall. In front lies a Mediterranean steamer, which all day long has been discharging cargo. Gazing westward up Giudecca, masts and funnels bar the sunset and the Paduan hills; and from a little front room of the *trattoria* the view is so marine that one keeps fancying one's self in some ship's cabin. Sea-captains sit and smoke beside their glass of grog in the pavilion and the *caffè*. But we do not seek their company at dinner-time. Our way lies under yonder arch, and up the narrow alley into a paved court. Here are oleanders in pots, and plants of Japanese euonymus in tubs; and from the walls beneath the windows hang cages of all sorts of birds—a talking parrot, a whistling blackbird, goldfinches, canaries, linnets. Athos, the fat dog, who goes to market daily in a barchetta with his master, snuffs around. "Where are Porthos and Aramis, my

friend?" Athos does not take the joke; he only wags his stump of tail, and pokes his nose into my hand. What a Tartufe's nose it is! Its bridge displays the full parade of leather-bound brass-nailed muzzle. But beneath, this muzzle is a patent sham. The frame does not even pretend to close on Athos' jaw, and the wise dog wears it like a decoration. A little further we meet that ancient gray cat, who has no discoverable name, but is famous for the sprightliness and grace with which she bears her eighteen years. Not far from the cat one is sure to find Carlo—the bird-like, bright-faced, closed-cropped Venetian urchin, whose duty it is to trot backward and forward between the cellar and the dining-tables. At the end of the court we walk into the kitchen, where the black-capped little *padrone*, and the gigantic white-capped *chef* are in close consultation. Here we have the privilege of inspecting the larder—fish of various sorts, meat, vegetables, several kinds of birds, pigeons, tordi, beccafichi, geese, wild ducks, chickens, woodcock, etc., according to the season. We select our dinner, and retire to eat it either in the court among the birds beneath the vines, or in the low dark room which occupies one side of it. Artists of many nationalities and divers ages frequent this house; and the talk arising from the several little tables turns upon points of interest and beauty in the life and landscape of Venice. There can be no difference of opinion about the excellence of the *cuisine*, or about the reasonable charges of this *trattoria*. A soup of lentils, followed by boiled turbot or fried soles, beefsteak or mutton cutlets, tordi or beccafichi, with a salad, the whole enlivened with good red wine or Florio's Sicilian Marsala from the cask, costs about four francs. Gas is unknown in the establishment. There is no noise, no bustle, no brutality of waiters, no *ahurissement* of tourists. And when dinner is done we can sit awhile over our cigarette and coffee, talking until the night invites us to a stroll along the Zattere or a *giro* in the gondola.

#### VIII.

##### NIGHT IN VENICE.

NIGHT in Venice! Night is nowhere else so wonderful, unless it be in winter

among the high Alps. But the nights of Venice and the nights of the mountains are too different in kind to be compared.

There is the ever-recurring miracle of the full moon rising, before day is dead, behind San Giorgio, spreading a path of gold on the lagoon which black boats traverse with the glow-worm lamp upon their prow; ascending the cloudless sky and silvering the domes of the Salute; pouring her vitreous sheen upon the red lights of the Piazzetta; flooding the Grand Canal, and lifting the Rialto higher in ethereal whiteness; piercing but penetrating not the murky labyrinth of *rio* linked with *rio*, through which we wind in light and shadow, to reach once more the level glories and the luminous expanse of heaven beyond the Misericordia.

This is the melodrama of Venetian moonlight, and if a single impression of the night has to be retained from one visit to Venice, those are fortunate who chance upon a full moon of fair weather. Yet I know not whether some quieter and soberer effects are not more thrilling. To-night, for example, the waning moon will rise late through vails of scirocco. Over the bridges of San Crisostomo and San Gregorio, through the deserted Calle di Mezzo, we walk in darkness, pass the marble basements of the Salute, and push our way along its riva to the point of the Dogana. We are out at sea alone, between the Canalozzo and the Giudecca. A moist wind ruffles the water and cools our forehead. It is so dark that we can only see San Giorgio by the light reflected on it from the Piazzetta. The same light climbs the Campanile of St. Mark, and shows the golden angel in a mystery of gloom. The only noise that reaches us is a confused hum from the Piazza. Sitting and musing there, the blackness of the water whispers in our ears a tale of death. And now we hear a plash of oars, and gliding through the darkness comes a single boat. One man leaps upon the landing-place without a word and disappears. There is another wrapped in a military cloak asleep. I see his face beneath me, pale and quiet. The *barcaruolo* turns the point in silence. From the darkness they came. Into the darkness they have gone. It is only an ordinary incident of coast-



guard service. But the spirit of the night has made a poem of it.

Even tempestuous and rainy weather, though melancholy enough, is never sordid here. There is no noise from carriage traffic in Venice, and the sea-wind preserves the purity and transparency of the atmosphere. It had been raining all day, but at evening came a partial clearing. I went down to the Molo, where the large reach of the lagoon was all moon-silvered, and San Giorgio Maggiore dark against the blueish sky, and Santa Maria della Salute domed with moon-irradiated pearl, and the wet slabs of the Riva shimmering in moonlight, the whole misty sky, with its clouds and stellar spaces, drenched in moonlight, nothing but moonlight sensible except the tawny flare of gas-lamps and the orange lights of gondolas afloat upon the waters. On such a night the very spirit of Venice is abroad. We feel why she is called Bride of the Sea.

Take yet another night. There had

been a representation of Verdi's *Forza del Destino* at the Teatro Malibran. After midnight we walked homeward through the Merceria, crossed the Piazza, and dived into the narrow Calle which leads to the Traghetto of the Salute. It was a warm moist starless night, and there seemed no air to breathe in those narrow alleys. The gondolier was half asleep. We called him as we jumped into his boat, and rang our soldi on the gunwale. Then he arose and turned the *ferro* round, and stood across toward the Salute. Silently, insensibly, from the oppression of confinement in the airless streets, to the liberty and immensity of the water and the night, we passed. It was but two minutes ere we touched the shore, and said good-night, and went our way, and left the ferryman. But in that brief passage he had opened our souls to everlasting things—the freshness, and the darkness, and the kindness of the brooding, all-enfolding night above the sea.—*Fraser's Magazine*.

#### THE WORK OF RIVERS.

THERE is no series of actions occurring in the physical world around us of greater importance in the eyes of the geologist than the work of rivers. The high value which science is led to place upon the action of running-water as a geological agent, is by no means difficult to understand. We require firstly to bear in mind that the geologist endeavors to explain the past history of the earth by an appeal to its existing condition. The present of the earth is, in his view, the key to its past. This is the underlying principle of every detail of modern geology; and it is this method of explaining the past by an appeal to the existing circumstances of the earth, that constitutes what is known in geology as "uniformity." The geologist thus assumes that the actions and operations of nature have been of uniform character, and that when differences have existed between the earth's past and its present, they can be proved to be differences, not of kind, but merely of degree. Thus he maintains, and with every show of reason, that rivers have always acted in the past as

they act now; that rain and the sea have worn and wasted the land in the æons of long ago, as they wear and waste it still; and that volcanic eruptions, earthquake-action, and the rise and sinking of land, have served to modify the earth's surface in the past, as they are certainly seen to alter the contour of the land to-day.

In the work of modifying the earth, rivers have always held a prominent place. The early geologists invariably assumed that rivers were powerful agents in producing change, although they did not credit them with their full power as disclosed by modern research. Even Job speaks of the "waters wearing the stones," and of the "mountain being moved out of his place;" and the observation shows us that in patriarchal days, the power of running-water to "erode," or to eat out and wear away the earth's crust, was a recognized feature of physical history. But it has certainly been left for the modern geologist to show the full capabilities of rivers to effect changes upon the earth's surface; and to note the part they play in that

well-nigh universal action, named "denudation." This action, as the etymology of the word indicates, is one of "laying bare" the surfaces of the earth. But it is likewise something more. The "laying bare" of rock surfaces is only the prelude to them being wasted and worn, and to their being carried off, slowly or the reverse, to the sea and to lakes, there to form the rocks and foundations of the future.

In this work of denudation, there are employed a large number of natural agencies, which act ceaselessly upon the world's substance. There is hardly a feature of the land—hill, valley, river-course, basin, cliff—which does not represent either the direct or indirect result of the process of denudation. In this work of "wear and tear," the sea, of course, plays an important part. The ceaseless action of the waves affects the coasts, occasionally in an alarming fashion, by sweeping away large tracts of valuable land. The atmosphere also is ever at work, denuding the land by the action of the oxygen and carbonic acid gas which it contains; while ice, frost, and snow exercise a powerful effect upon the earth, whether in loosening the soils by the action of frost, or in the shape of the glacier, slowly cutting and carving its way from the mountaintops to the valley below.

To rivers, however, must be ascribed the chief part in this action of "denudation," which it must be borne in mind is hardly a phase of pure "waste," inasmuch as the matter worn away from the land is being re-formed into rocks in the quietude of the lake-beds and in the abysses of ocean. Geologists have made elaborate calculations of the amount of waste matter which various rivers wear and bring down from the lands through which they flow, to the sea which receives them. It is obvious that the power of any river, however, will depend upon a variety and combination of circumstances; and it is needful to take these into account in estimating the river's work. For example, the river that has to operate upon soft material will naturally possess a more evident effect on the district through which it runs, than that which flows over a rocky course. And similarly, the river which has a steep and precipitous

course, interspersed with waterfalls, must act more powerfully on the land than the winding and slow-flowing river, whose meanderings are in fact due to the lack of force to sweep obstacles away.

On the basis afforded by such considerations, calculations of a river's work may be made with some degree of certainty. Thus it has been estimated that the Mississippi reduces the level of the country through which it flows at the rate of one foot in six thousand years. Supposing that this rate of wear and tear could be made to extend over the whole surface of North America, the average height of which is seven hundred and forty-eight feet, the continent would be reduced to the level of the sea in four and a half millions of years. This latter period, which seems, humanly speaking, of well-nigh inconceivable duration, is, in geological eyes, a mere fraction of the estimated total duration of the earth itself. Various rivers are found to wear the land at a greater rate than others, according to the circumstances detailed above. In the case of the Po of Europe, for example, the wear and tear are nine times as great as in the case of the Danube; and in the Mississippi, the rate is only one-third of that exercised by the seething and tumultuous Rhone. The latter river, according to the best calculations, removes one foot of *rock* in one thousand five hundred and twenty-eight years; the same work being accomplished by the Ganges in two thousand three hundred and fifty-eight years; by the Po in seven hundred and twenty-nine years; by the Danube in six thousand eight hundred and forty-six years; and by the Nith in four thousand seven hundred and twenty-three years. At the above rate, the Ganges would remove the Asiatic continent in five millions of years; assuming the average height of the continent above sea-level to be two thousand two hundred and sixty-four feet. Similarly, Europe would be worn down by the Po to the water-level in less than a million of years, provided the whole continent were denuded as rapidly as the Po-valley is worn to-day.

Some highly interesting statistics have been given regarding the amount of water and of sediment of all kinds which

various rivers bring down to the sea. In the Tay of Scotland, for instance, it is assumed that the area of drainage is two thousand five hundred square miles; the annual discharge of water being one hundred and forty-four billions of cubic feet; and the sediment amounting to nearly fifty millions of cubic feet per year. The Clyde is credited with bringing down nearly nine millions of cubic feet of sediment per annum; while the Forth, with a drainage area of four hundred and fifty square miles, is estimated to carry to the sea nearly five and a half millions of cubic feet. Our own British Islands are estimated to possess an average height above the sea of six hundred and fifty feet; and it has been calculated that as things are, our rivers will have worn our territory down to sea-level in about five and a quarter millions of years. Sir Charles Lyell calculated that the amount of matter brought down by the Ganges in one year would "raise a surface of two hundred and twenty-eight and a half square miles, or a square space, each side of which should measure fifteen miles, a height of one foot." Another estimate gives the work of the Ganges as equal to the collection of an amount of matter which would exceed in weight and bulk forty-two of the great Pyramids of Egypt. To transport a mass of solid matter from the higher country of the Ganges to the sea, equal to that brought down by the river in the four months of the wet season, would require a fleet of over eighty ships, each carrying fourteen hundred tons; the whole fleet sailing "down the river every hour of every day and night for four months continuously." These calculations, based on data which cannot be questioned, serve to show the rapid rate at which the earth's surface is being worn down by the rivers of the world. And the action loses nothing of its significance when we reflect that the action of the merest brook does not differ in kind from that of the largest river. For brook and river alike run seaward or lakeward; each laden with matter from the land, and each in its own way serving to alter, modify, and reduce the land-surfaces to which it serves as a drain.

The influence of waterfalls, as serving to aid the wearing action of the

river through the increased velocity of the water, has already been alluded to. The most notable example of the effects of running-water when associated with cascades, is found in the celebrated Falls of Niagara. These consist, as most readers know, of two cascades, having a small island (Goat Island) intervening, and presenting a total breadth of nine hundred and fifty yards. The height of the falls is one hundred and forty and one hundred and sixty feet respectively. About six hundred and seventy thousand tons of water are shot over the verge of Niagara every minute. The river itself flows over a comparatively flat table-land, in the course of which Lake Erie forms a well-marked basin. Near the Falls, it rushes over an uneven and rocky bed of limestone, and exhibits a striking difference from its comparatively quiet and even upper course. Now it is a matter of common observation that every waterfall tends to cut its way backward or toward the source of the river; and an examination of the Niagara Falls shows that the water after leaving the Falls passes through a comparatively narrow limestone gorge, extending to Queenstown, where this limestone overlooks a plain. Sir Charles Lyell calculated that Niagara wears away the limestone cliff over which it falls at the rate of one foot yearly; hence, as Queenstown lies some thirty-five thousand feet down the river, it may be assumed that it has taken that number of years for the Falls to cut their way backward from their original position at Queenstown to their present site. Evidence is not wanting to show traces of river-action at a height of nearly three hundred feet above the present ravine in which the Niagara flows. Hence Sir Charles Lyell concluded that the river once ran between the present Falls and Queenstown at a height of some three hundred feet above its present level—that is, before the gorge was excavated, and at a time when the Falls were situated at the latter place.

One of the most remarkable examples of river-action, both as regards the extent of the water's work and its uniformity, is found in the Rio Colorado of the Western American States. This area has been thoroughly and scientifically

explored by the Survey of the United States Government, and the results of the examination testify anew to the power of running-water as an agent in modifying the earth's crust. In part of its course the Rio Colorado runs through rocky ravines of immense extent named "cañons." The Grand Cañon of the Colorado is in itself a magnificent spectacle. It is a chasm two hundred and seventeen miles in length, and with an average depth of one mile, or five thousand two hundred feet. This cañon cut through rocks, is only one among many through which the river finds its way, and at the bottom of which it appears to the observer above as a mere silver streak. What, let us ask, would have been the opinion of the geologists of former years, had the query been put to them concerning the means whereby these great gorges have been excavated? The answer would have borne that the river merely occupied the gorges which had been formed for it by some eruptive force. But an examination of the cañons shows this opinion to be untenable in the face of facts. Everywhere there are to be seen traces of the river-action on the sides of the cañons; at all points, the geologist is met by evidences of the plain fact that the river has actually eroded and worn out the gorges it has come to occupy.

Are there any circumstances in connection with the Rio Colorado River, it might be asked, which serves to explain the powerful nature of its action on the rocks? The answer to this question is of the most interesting kind, since it serves to illustrate a new circumstance in river-action, and one which renders it highly powerful in its effects on the earth's surface. The Colorado is undoubtedly a fierce torrent. Within the cañons it has a fall or slope of between seven and eight feet per mile, which is twenty times as great as that of the Ohio and Mississippi. But running-water alone will hardly accomplish a work of such magnitude as the Colorado has evidently been able to effect. Hence, when the geologist surveys the Colorado more closely, he notes that its work and power are largely due to the quantity of sand and like *débris* it carries down, and which borne along

with its currents, serve like a natural saw or file, to wear and eat out the rocks over which it runs. The immense power of sand borne by running-water, as an agent in eroding rocks, is thus clearly demonstrated. But the sand must be present in proper quantity, that its work may be thoroughly accomplished. There must neither be too much nor too little sand in the river, if its work is to be thoroughly performed. Too much sand will block up its currents and impede its work, will lie in its bed, and will thus protect the rocks, instead of contributing to their wear. Too little sand will be swept onward and leave no impression on the river-course. Hence, it is when the river, as is the case with the Colorado, possesses just that modicum of sand which it can keep moving with dire effect to the rocks, that the wear and tear proceed most quickly, and that the work of water is seen at its best. Curiously enough, a tributary of the Colorado illustrates the case of a river which cannot erode its course because of the great amount of sand which it carries. This is the river Platte, which has a fall equal to that of the Colorado, but which is *overloaded* with sand. Hence its action on its course is feeble as compared with that of the Colorado, and its work can never, as things are, compare with that of its neighbor-stream, which has silently but effectually hewn out the land into the great gorges, which are among the most wonderful of nature's gigantic works.

It is evident that rivers, entering lakes and seas, will deposit therein the *débris* and waste derived from the land. As has already been shown, this waste matter will be deposited as sediment, to form the rocks of the future; but when it is placed in lakes or in shallow waters anywhere, its effects are seen in the "silting" or filling-up of lakes, and in the formation by rivers of tongues of land, which may jut out to sea for long distances. We know, for example, that the Rhone has formed new land in the lake of Geneva, at the river-estuary, by the deposition of solid matter in the lake. An old town, called Port Val-lais, which about eight hundred years ago was situated close by the borders of the lake, is now placed a mile and a



half inland, through the river-deposits having come to intervene between it and the lake. So also the Italian Adria, which in the time of Augustus was a seaport—giving, in fact, the name to the Adriatic Sea—"is now," says Lyell, "about twenty Italian miles inland. Ravenna was also a seaport, and is now about four miles from the main sea." But by far the most interesting case of the formation of river-land is that of the Mississippi. If we look at a map of North America, we shall be able to see the "delta" of the Mississippi stretching seaward into the Gulf of Mexico, as a long tongue of land through which flows the river, and which allows the river to pass to the sea by three chief mouths. The South-West Pass is the broadest and deepest mouth; Pass à L'outré points eastward; and in the middle is the South Pass. This river brings down débris in a year sufficient to build a mass one mile square, and two hundred and sixty-eight feet thick. Each "pass" has a "bar" at its mouth, and the obstruction to traffic which once existed may be conceived, when it is mentioned that in 1859 fifty-five vessels were blocked at the South-west Pass, the freight of those bound outward being seven million three hundred and sixty-seven thousand three hundred and thirty-nine pounds; while several had been waiting for weeks in the hope of getting to sea. It was little to be wondered at that the commerce of New Orleans was found to be seriously impeded by the state of matters at the mouth of the Mississippi. The advance of the tongue of land it may be mentioned takes place at the rate of about a hundred feet per annum at the South Pass; whereas at the South-west Pass, which latter is the chief entrance to the river, the river-sediment gains at the rate of three hundred feet yearly.

The problem how to keep one or more of the "passes" open for traffic, so as to allow vessels to enter or leave the river

at all states of the tide, has been solved by the ingenuity and enterprise of an American citizen, Captain James B. Eads, whose name deserves to be handed down to posterity as a true benefactor of his own and other lands. Seizing upon the idea that the river keeps its own course clear so long as the rush of water, confined between banks, is great, Captain Eads resolved to simply extend the banks of the South Pass, so as to secure the requisite flow and force of water. After much opposition, Eads at length obtained government consent and permission in 1875 to carry out his scheme. He thereupon constructed a series of "jetties" or extensions of the river-banks of the South Pass, by means of willow-frames, which were duly sunk in the river, and which the river itself filled and coated with sediment, thus rendering the whole structure solid. The work was completed on July 9, 1879, with the result that a new channel thirty feet deep, seven hundred feet wide at its surface, and two hundred feet wide at bottom, had been constructed. This channel is kept clear by the "scour" of the river itself; the Mississippi has thus been rendered navigable at all states of the tide, and a great commercial success has been attained through a persevering study of the conditions wherewith nature secures her own ends in the matter of river-action.

The study of rivers is thus seen to be fraught with instruction and interest, not only for the general reader, but for the student of the earth's structure and history. Many an interesting chapter in the world's history can be written by aid of the geological information supplied by the river and its work; and there can be no better introduction to geological science itself than a study of river-action, as a preliminary to the understanding of some of the changes which this world of ours is ever undergoing.—*Chambers's Journal*.

#### MOSLEM PIRATES IN THE MEDITERRANEAN.

ACROSS the blue waters of the Mediterranean Sea two irreconcilable enemies, Moslem and Christian, have glared at each other for centuries: to the north

Spain, France, Italy; to the south, Morocco, Algiers, Tunis, Tripoli. The waves that wash those shores have many a time been dyed with the blood of the

valiant and the helpless, the strong soldier and the trembling child. They have been the liquid battle-plain for belted knight and turbaned Turk during many troubled years, and along the coasts of Italy from Villafranca to Sicily there are few miles of territory which have not at one time or another been scorched and ravaged by African fire and sword.

There are no pages of European history more full of wild romance and stirring adventure than those which record the deeds of the Moslem pirates in the Mediterranean; and of all these pages those which embrace the period from 1500 to 1560 are by far the most important and interesting. Not that a fierce maritime warfare between the Turks and Christians did not exist long before; but during this period piracy on the part of the former took a more powerful development, by reason of the protection afforded to these lawless marauders by the Sultans of Turkey, who invested sundry of them with important dignities, and even with sovereignty. Within those sixty years the Ottoman emperors made use of the pirate chiefs to forward their own ambitious aims in Northern Africa, and to drive out the native Arab dynasties. But they proved to be implements which as often cut the hand that wielded them as those against whom they were directed.

Perhaps not the least singular circumstance connected with the piratical wars of the Mediterranean is the fact that their latest and ablest historian is a Roman Dominican monk. Padre Alberto Guglielmotti, of the Order of Preachers, is the author of a series of valuable works all dealing with marine matters, and especially and peculiarly with the Papal navy. Perhaps to the general reader the very phrase "Papal navy" may appear almost incongruous. Yet a Papal navy once existed, and its captains and sailors were among the most valiant and skilful of all those who manned and navigated the fleets of the Mediterranean. Still more incongruous does it appear to think of a cowed friar in his cell inditing treatises and narratives about naval doings, which not only manifest the most complete mastery of technical details, but have as breezy a salt savor of the sea in them as Dibdin's

songs! The phenomenon is partly accounted for when we learn that Padre Guglielmotti is a native of Civit  Vecchia, and that his boyish reminiscences include listening with eager delight to the yarns of an old sailor who was wont to sit on the quay on holiday afternoons and recount his adventures. But Padre Guglielmotti's natural bent and aptitude for maritime things have been cultivated by assiduous and intelligent study. On navigation, gunnery, and fortification, on marine topography and meteorology (especially as regards the phenomena to be observed in the Mediterranean), this Dominican monk speaks with science and authority. One is tempted to exclaim, "What a fine sailor wasted!" But it must be remembered that for thousands of stout fellows able to take part in doughty deeds afloat, all the seaports in Italy could perhaps not furnish one other able to chronicle them as the Padre Alberto has done for us. He brings to the performance of his task some valuable elements which are supplied by the learned leisure of a cloistered life; and a mass of very varied erudition is fused, so to speak, into homogeneity by the glow of a strong and steady enthusiasm.

The leading incidents of the piratical warfare waged by the Mussulmen against the Christians in the Mediterranean are to be met with scattered throughout the pages of many chroniclers and historians. Jacopo Bosio in his well-known history of the Order of St. John of Jerusalem,\*—known later as the Knight of Malta—records many of them; as does Agostino Giustiniani in his "Annals of Genoa," Pietro Bembo in his "Rerum Venetarum Histori ," Guerrazzi in his "Life of Andrea Doria" (the latter, despite its power and eloquence, not always to be relied on in detail), and many others. But Padre Guglielmotti has for the first time collected and co-ordinated these scattered records into a historic whole, and has added to them much valuable original thought, and many hitherto inedited documents, the fruit of his diligent researches. The work we are now alluding to is entitled "La Guerra dei Pirati, e la Marina

\* *Storia della sacra religione et illustrissima milizia di San Giovanni Gerosolimitano*. In fol. Roma, 1594-1602.

Pontificia, dal 1500 al 1560." It is rare to meet with a book so interesting at once in matter and manner. The author's character and tone of mind might furnish as valuable a study to the psychologist as his facts afford to the historian. He is endowed with a freshness and vigor of imagination which enables him to realize to his own mind the events he chronicles, almost as forcibly as if he had witnessed them. One result of this power is that he writes of distant incidents with a lively personal interest, which the majority of mankind are unable to feel even for the passing life around them. Three hundred and fifty years have not fossilized the men of the Cinque Cento for Padre Guglielmotti. He loves and hates them with the heartiness worthy of Doctor Johnson. As a counterpoise, he has a genuine love of truth, and would not willingly misrepresent even a Barbary pirate! But his manifestations of impartiality are such as an honest man might display toward his neighbor and contemporary in the flesh; and they neither have, nor affect to have, any Jove-like air of serene tolerance, or scientific imperturbability. For him humanity is still warm and palpitating in parchment chronicles of three centuries ago.

The year 1500 of our era was the Jubilee year. Rome was full of pilgrims from all parts of Europe. Her hosteleries were overflowing; the ports of her maritime territory were populous with foreign vessels; the sea in those days was a more frequented highway than the land; and the concourse of travellers arriving from the different coasts and islands of the Mediterranean accumulated a mass of testimony as to the vexations, injuries, and alarms inflicted on their respective countries by the Mussulmen pirates. At the same time, the traditions of the ancient crusades against the infidel were revived and warmed by all the religious exercises, the public preachings, and the visits to famous sanctuaries, which belonged to the Jubilee year. The Borgia Pope, Alexander VI., who then sat on the throne of St. Peter's, proposed an alliance of Christian princes and peoples against the Turk. Almost every European nation had vital cause to desire the overthrow

of the Mussulman power. The shores of France and Spain were constantly exposed to piratical ravages. Venice waged a fierce war in the waters of the Levant to defend her possessions. Even the inland countries of Hungary and Poland were engaged in a struggle against the hordes of Bajazet. Italy, from Genoa to Reggio on the Mediterranean, and from Venice to Taranto on the Adriatic, had suffered by the fire and sword of the barbarians. The most sanguine hopes were excited in the public mind by the announcement that the sovereigns of France and Spain (at that date Louis XII., and Ferdinand V., surnamed the Catholic) were about to put out all their strength against the common foe. Matters went so far in the councils of Rome, that the Pope nominated as Captain-General of the Christian armies Pierre d'Aubusson, Grand Master of Rhodes; and the Papal master of the ceremonies composed the formula of prayers to be recited on the distribution of the crosses, and the blessing of the common standard of the league.

At the same time active preparations went on to provide the contingent of twenty galleys which the Pope had promised as his contribution to the Mediterranean fleet. The captain of the Papal navy at this time was Lodovico del Mosca, of a noble Roman family, now extinct. For a long period it had been customary for the Papal Government to keep a squadron of war galleys cruising along the coast of the Roman and Tuscan Maremma, and a considerable way to the south toward Naples, for the protection of Italian commerce against the pirates. The number of these vessels was, in 1500, increased from three to twelve; namely, three galleys, three brigantines, three low coasting barges, two galleons, and a vessel called *balniere* or *baloniere*, which was a long rowing boat, something like the canoes used by the natives in Siam. Thanks to the seamanship and vigilance of Captain del Mosca, and his colleague, Lorenzo Mutino (also a Roman), the great mass of pilgrims who came by sea reached Rome without accident or spoliation; and there was abundance of provisions in the ports of the State and the hosteleries of the city. During the whole time

of the Jubilee, Mosca's little squadron was incessantly cruising along the coast from Cape Argentaro to the Circean Promontory, and among the little islands off the Tuscan and Neapolitan shores. The name of Mosca was a word of fear to the pirates, who prudently kept out of his way, and left the seas free to peaceable folks bent on piety or profit. Beside fulfilling these, his normal duties, Lodovico del Mosca busied himself in preparations for the great allied campaign against the Turk, which was then in prospect. Under his supervision six new galleys were at once put on the stocks in Civit  Vecchia. Moreover, he was quick and vigilant enough to make an excellent bargain for his sovereign the Pope by buying, at a very low price, all the artillery which King Frederick of Naples, then flying from his kingdom, had collected at Ischia. It is said to have been worth fifty thousand ducats, and was purchased for thirteen thousand !

The two captains, Mosca and Mutino, shipped the guns and munitions at Ischia, and brought them up the Tiber to the Ripa, whence they were conveyed by land through the Campo di Fiori to the Castle of St. Angelo. The procession greatly excited the public interest and curiosity, and the line of march was crowded with spectators. "There were thirty-six great bombards, with eighty carts pertaining to them; some drawn by horses, some by buffaloes, harnessed singly, or two, four, and even six together; two wagons laden with arquebusses for ship's boats; nine with about forty smaller bombards (*bombardelle*) placed three, four, or six on each wagon; twelve with ordinary pieces of artillery; as many more for the service of twelve big guns; thirty-seven carts with iron balls; three with gunpowder; and, finally, five laden with nitre, darts, and bullets. Splendid artillery of excellent workmanship and great power, escorted by 2000 men under arms, without mentioning the companies who marched before and after each wagon." Thus Padre Guglielmotti. He points out that, according to this irrefragable evidence, the ancient bombards were still highly valued at the beginning of the sixteenth century, and that this was about their latest period.

Thence forward, cannon bored in proportion to the weight of the balls came into use. And while on the subject of medi val artillery, we may mention a curious etymology maintained by our author. In a previous work he mentions the first example of the use of the word *mitraille*—in Italian *metraglia*—to express a quantity of projectiles fired off together, in the year 1453. Guerrazzi writes it in Italian with an *i*, and it is precisely this orthography which has blinded him to the true etymology of the word. In his "Life of Andrea Doria" Guerrazzi writes: "Cartouches filled with ball received the name of *mitraglia*, the etymology of which word is unknown to us." Had he written *metraglia* he would more easily have perceived the derivation of the word from the Italian verb *mettere*, to send, to emit. Of course its ancestor a little further removed is the Latin *mittere*. But, as Padre Guglielmotti well observes, the desinence in *aglia* is not Latin, but belongs to the idiosyncrasy of the Italian language, which as other examples of it; as *pedonaglia*, foot-soldiery, *nuvolaglia*, a mass of clouds, expressing the agglomeration of a number of similar objects.

With all these preparations, and others on a great scale made by Louis XII., King of France and Seigneur of Genoa, and by Ferdinand the Catholic King of Spain, mighty results were expected from the Christian alliance against the Turk. The French King had prepared a fine fleet and army under the command of Count Philip of Cleves Ravenstein; while the troops of his Most Catholic majesty were led by the famous Gonsalvo of Cordova, surnamed the Great Captain. But these Christian princes were more intent on their own aggrandizement than on effectually protecting their peaceable subjects from piracy and rapine. Both looked with greedy eyes on Naples; and both used the war against the Turks as a pretext for collecting sea and land forces, and taking Frederick of Naples by surprise. In fact, Count Philip of Cleves Ravenstein, without taking counsel either with the Venetians, or with the Grand Master of Rhodes, entered the Archipelago, making a mere pretence of waging war on the Ottoman



Government. He assaulted Mitylene, bombarded it without effect, put about to the westward, and lost on the voyage the flagship on which he himself was, and soon afterward another of his biggest ships with nearly all her crew. Similarly the army of the Spanish king, under the command of Gonsalvo, having united itself with the Venetians off Cephalonia, disembarked, and made a great show of besieging the chief fortress of the island; but always half-heartedly, and in readiness to weigh anchor and make off at a moment's notice, according to the secret instructions of the Spanish Court. The flight of King Frederick from Naples, and the quarrel between France and Spain as to the division of the spoil, are well known, and form no part of our present subject, except in so far as they offer irrefragable proof of the real ends covered by the pretext of war against the Turks and the pirates. Even Cæsar Borgia used the same pretence to cloak for a moment his ambitious aims in Tuscany. He gave out that he was about to collect forces, by land and sea, against the Moslems; and he was the more readily believed because all the littoral populations knew by bitter experience how needful such an enterprise was. But, instead of succoring the dwellers on the Maremman coast, Cæsar Borgia, Duke of Valentino, and Commander-in-chief of the Papal armies, used both men and ships to despoil the Lord of Piombino of his territories, including the island of Elba. In June, 1501, the squadron under the command of Mosca was summoned from Cività Vecchia to blockade Piombino; and in the following August, Giacopo d'Appiano, Lord of Piombino, fled to France, and the garrison surrendered to Borgia.

And, meanwhile, what were the foes to whose tender mercies the commerce, the property, the liberties, and the lives of inoffensive populations were left almost defenceless? It has been stated that the special characteristic of the period from A.D. 1500 to 1560 was the elevation of pirate chiefs by the Porte to positions of great power and dignity. They were made rulers over Tunis, Tripoli, Tangiers, Alexandria, and over the larger islands from the Ionian Sea to Jerba; and were, moreover, appointed

admirals, or commanders of squadrons, of the Ottoman Empire. These men were almost without exception the most truculent ruffians imaginable, recruited from the scum of the galleys. Some of them were renegades, and all were treacherous and rapacious, to the injury of Moslem as well as Christian, when it suited their purpose. The names by which many of them were known in the Mediterranean, and whose very sound struck the inhabitants of its smiling shores with panic terror, are curious and suggestive. Among them were *Barbarossa*, or Redbeard; *Il Giudeo*, the Jew; *Scirocco*, Southeaster (a stormy wind in those waters, the *creber procellis Africus* of Virgil); *Il Moro*, the Moor; *Cacciadiavoli*, Hunt-the-devils, etc. Except when these names describe personal qualities or peculiarities—as in the case of *Il Giudeo* and *Barbarossa*—they were corruptions of Moslem appellations. Thus *Camali* was the Italian version of *Kamāl-raïs*; *Curtogali* was *Kurd-ogly*; the terrible title of *Cacciadiavoli* was, thinks De Hammer, partly corrupted from *Cassim* or *Quâsim*; *Oruccio* was *Oürudje*; *Ariadeno* (*Barbarossa*) a transformation of *Kair-ed-Din*; *Dragut* was *Torghûd*; *Lucciali*, *Uluge-Aly*, etc.

That these desperadoes should for more than half a century have infested the waters and desolated the shores of the Mediterranean, Adriatic, and Ionian seas, is only to be explained by the discords and jealousies which divided Christian princes and rulers. France and Spain played off the Turk against one another in their struggle for supremacy in the peninsula. Meanwhile ruin and misery befel the littoral populations, and thousands of Christian men, women, and children languished in cruel captivity. Their "Most Christian" and "Most Catholic" Majesties were, indirectly, purveyors of slaves to the Sublime Porte and to all the petty tyrants of Northern Africa. A brief notice of the *facta et gesta* of some of the leading pirates will be the best means, compatible with the space at our command, of illustrating what an intolerable scourge Moslem piracy had become in the sixteenth century.

*Kamāl-raïs*, called by the Italians *Camali*, in the year 1502, ruled over *Santamaura* or *Leucadia*, one of the

most important of the Ionian Islands, and from that centre, with a powerful fleet, devastated the neighboring shores, and crippled maritime commerce. At the beginning of the sixteenth century, the metropolis of the island (to which it gives its name, Santa Maura) was a strongly fortified place. It was surrounded by a strong wall, flanked by massive turrets, furnished with a large quantity of artillery, and strengthened beside by a rectangular castle of oblong shape, protected by five large round towers, and four smaller square ones. At the foot of the escarpments were deep moats filled with sea-water. Between the island and the coast of Acarnania there is only a very narrow canal, over which, by means of sundry little islets and rocks, a bridge was carried, connecting it with the mainland. A curious memorial of the condition of the fortress of Santamaura in those days exists in the church of the Friars at Venice, where, on the monument to Benedetto Capello, a view of it is sculptured in bas-relief. In the same church, too, the commandant of the Papal fleet who directed the expedition against Camali, which we are about to describe, lives again on the canvas of Titian. The commandant, or Commissary, as was his official title, was no other than Giacopo Pesaro, Bishop of Pafo; and he is represented in Titian's magnificent picture as kneeling before St. Peter, who regards him benevolently for his services to Christendom against the Turks. The custom of employing ecclesiastics in military enterprises was not peculiar to the Papal Court. As late as the days of Louis XIV., Bishops and Cardinals commanded French ships of war.

Bishop Pesaro, then, having joined his forces with those of the Venetian Republic, proceeded to the Ionian Sea for the purpose of attacking Camali. The General of the Venetian forces was Benedetto Pesaro, the Bishop's brother. It was desired to surround the island of Santamaura by the combined fleets; but this being impossible by reason of the bridge already described, the two commanders agreed that the Roman vessels should hold the channel between the island and the mainland, cutting off all communication on that side, and that

the Venetians should invest the place from the side of the open sea as far as the port of Demata. On August, 23d, 1502, the Roman Commissary, with twelve galleys, favored by a south wind, glided in rapidly between the island and mainland, until they came to the shallow water at the extremity of the narrow canal. Here twelve pirate galleys awaited them, hoping either to take them by surprise, or at least to conquer them singly as they issued into the narrow channel. But the Romans, prudent as well as valorous, came on cautiously, taking frequent soundings, and keeping close together in a double line. As soon as they came in sight of the enemy, they pushed forward with such vigor of oars and such a furious fire from their big guns, that the Turkish galleys fled precipitately toward the shore; the pirates, throwing themselves into the water, escaped by swimming or wading; and their twelve ships were abandoned as a prey to the victors. On the other side the Venetians came up and landed their infantry and several pieces of artillery of large calibre; while the Romans, who had also landed after securing the pirate galleys, attacked the castle and cut the water conduits. The garrison, consisting of 400 Spahis, 100 Janissaries, and 2000 natives, nearly all pirates, made a desperate resistance. On the mainland, on the side of the Epirus, appeared 1000 cavalry soldiers with a handful of infantry, sent to the assistance of the garrison by the Turkish governor. But no sooner did they show themselves at the head of the bridge across the canal, than they were assailed by such a tremendous fire of grape-shot from the Roman ships as compelled them to make off precipitately, and they were seen no more. This circumstance discouraged the garrison, and after a seven days' siege, and the making of an important breach in the fortress, they came out to the gate to discuss the terms of capitulation. The place could no longer be defended, and must be yielded up; but they demanded to go out with their lives and property. The Venetian general was willing to give fair terms to the regular soldiery of the fortress; but considering the pirates to be outside the pale of honorable warfare, he desired they should be left to

be dealt with at his discretion. The pirates, being almost as furious against the regular Turkish soldiers as against the enemy, began to make a tumult, and threatened to proceed to violent excesses; whereupon, exasperated by their insolence, the Christian soldiery rushed past the gate and took the place by storm. A number of Christian prisoners—natives of Puglia, Sicily, and Calabria—found within it were released from their chains, and the leading pirates were hanged by the neck from the battlements; among them was Kamâl-raïs, called by the Italians Camali. "So much for the first!" says Padre Guglielmotti.

But poetical justice of this striking sort by no means overtook all the Moslem Corsairs. Curtogali (Kurd-ogly), for example, met with a different fate.

In 1516 there reigned over the country called by the Romans Byzacena (part of Tunis) from Algiers to the confines of Tripoli, Abu-Abd-Allah-Mohammed, of the dynasty of the Hafsîs, a Moslem of Berber race, and entirely independent of the Ottoman Empire. This prince was on friendly terms with the Genoese. He had signed treaties of friendship and commerce with them, and favored their trade, their coral-fisheries, their storehouses, because they brought important revenues to his exchequer, and helped to supply his markets to the great satisfaction of the native population. Things being thus, Curtogali, with a piratical squadron, appears on Abdallah's coasts, and demands hospitality. Now Curtogali was a notorious pirate; but he was also, none the less for that, in favor with the Sultan of Turkey, by whom he was subsequently advanced to high honors. Abdallah received him very willingly for several reasons: because he was a Musulman, because he was welcomed by the populace, and because, according to the precepts of the Koran, the pirate delivered up to him, as ruler of the country, a clear fifth part of the spoil wrested from Christian vessels. Curtogali was soon established at Biserta (the ancient Hippo-Zarythus, called by the Arabs Benzert) almost as an independent prince, with thirty ships and a horde of nearly six thousand robbers at his command. Benzert is situated on a

promontory of the Tunisian coast just opposite the mouth of the Tyrrhene Sea. From this point Curtogali could strike with his right hand at Trapani in Sicily, with his left at Cagliari in Sardinia, and swoop straight forward upon the Tiber, Rome, Naples, Tuscany, and Liguria. Within three months he had already seized upon a Genoese guardship, devastated a part of the Ligurian coast, taken eighteen Sicilian vessels laden with corn, and threatened the Tuscan Maremma with an ever-increasing swarm of galleys manned by the most formidable and desperate corsairs. Pope Leo X. issued stringent orders to the governors of all the Papal provinces to raise troops, occupy roads and bridges, patrol the shore, keep up a constant correspondence by day and night between the points most open to attack, and, in short, take the most active measures for the defence of the country against their dreaded foes. Dreaded in the fullest sense of the word they were. The mere menace of their coming sufficed to keep whole provinces in agitation. The city of Rome itself was alarmed; prayers were put up in all the churches, and the Pontiff with his court, and a large body of secular and regular clergy carrying the most sacred relics, went on foot in public processions from church to church to implore the divine protection against the pirates.

Meanwhile, however, Abdallah, ruler of Tunis, continued to harbor and favor Curtogali. Padre Guglielmotti has an amusing description of Abdallah's conduct and state of mind. "He desired," says our author, "peace with all, and prosperity for his own interests. Friendly to the merchants with their commerce, friendly to the pirates with their spoils. Let all hold firmly by the law; the former contentedly paying the custom dues, the latter cheerfully handing over a fifth part of their robberies, and Abdallah, their common friend, would ever continue in peace with them all. Outside of his ports the merchants and the pirates might fall together by the ears if they would; that was no reason for him to trouble his head. On the contrary, he would joyfully await them on their return either with custom dues, or tribute of the fifth, as the case might be." A delightful programme; only

that the Genoese, with whom, as has been said, Abdallah had made solemn treaties, did not wholly appreciate this lofty impartiality to the detriment of their commerce. They consequently resolved to assail Curtogali under cover of the Papal banner, and so as not openly to manifest hostility against the ruler of Tunis. Their ships, together with those of the Pope and a strong contingent belonging to the Knights of St. John, attacked Biserta on August 4th, 1516, set free a number of Christian prisoners, and gained a rich booty from the pirate ships, which were found laid up in the port, the crews having taken themselves off at the approach of the allied fleet. Thence the latter cruised along the African coast as far as Jerba; and having burned many of the enemies' vessels, taken a large share of spoil, and captured three brigantines, they returned triumphantly at the end of the month to the Italian harbors.

The result of these exploits was that Abdallah, perceiving that his policy of "each of you for yourselves, and all of you for me," was no longer tenable, made fresh treaties with the Genoese, promising to favor their commerce, and to protect their merchant vessels against all and sundry, along the coasts of Tunis. And so Genoa gained some advantage from her spirited effort. Not so Rome. Curtogali, finding that Abdallah's interests were seriously involved in keeping faith with the Genoese, relinquished all present hope of attacking their vessels from Tunisian ports. But all the more ferociously did he direct his projects of vengeance against Rome. To this end he conceived a plan of singular audacity, and one which, if carried out, might strangely have changed several pages of European history. This plan was nothing less than to kidnap the Pope, and carry him off prisoner! And it was, moreover, within an ace of succeeding. Here is Padre Guglielmotti's account of the matter, founded on contemporary documents:

"Pope Leo, son of Lorenzo the Magnificent, and still a young man, was accustomed every autumn to leave Rome with a few familiar friends and followers, and to put aside grave thoughts, and give rest to his weary

mind, by the pleasures of hunting and fishing, which he pursued throughout the country and on the shore. One of his favorite resorts for this purpose was the Castle of the Magliana, five miles distant from Rome on the banks of the Tiber. It is now a squalid and deserted ruin. . . . But in the days of Pope Leo it was a sumptuous edifice, as I have seen for myself in the designs of Sangallo, and as all may read in the documents of that time . . . From thence the Pope was wont to ride out privately to Porto, Ostia, Ardea, or Laurento, to descend to the shore, and embark in a little fishing-boat, and to divert himself, now at sea with net or hook, now on land with hound and hawk. In this year (1516) he left Rome on the eighteenth of September, and remained out of it two months, visiting the cities of the Maremma and hawking and fishing in various places." (Roscoe in his "Life of Leo X." falls into some inaccuracies respecting this excursion. In the first place he says that the Pope, after hearing of the death of his brother, Giuliano de' Medici, at Florence, "retired to Civit  Lavinia," as though seeking privacy in his grief; and secondly he asserts that the Pope left Rome "a few days after he had received intelligence of this event," which occurred in March. Now we have the irrefragable testimony of Paris de Grassis in his diary that the Pope left Rome on September 18th.) Padre Guglielmotti goes on: "Leo proceeded to Palo, and along the shores near the mouth of the Tiber, and to the suburban cities, as far as the Laurentian coast below Civit  Lavinia. At this latter place Curtogali lay in ambush awaiting him, with eighteen ships, and his men partly on board, and partly ashore, to catch the Pope between them. By good fortune some one got scent of the plot, and the whole company drew bridle in time, turned about, and fled at full gallop to Rome, which they reached in safety on October 28th. Paris de Grassis, who knew all, although he was not of the hunting-party, says no explicit word of this adventure. He merely writes of hunting, fishing, and a sudden return to the city. This was then a cowardly and vile plot. Such it is proved to be by the testimony of sundry historians, and by



the conspiracy discovered six months later."\*

There seems to be no doubt that Curtogali had a secret understanding with some traitor or traitors in the Papal Court. Nor is this at all inconceivable to those who know how, as Padre Guglielmotti says, the most ardent passions, the fiercest struggles between France and Spain, independence and servitude, nobles, and populace, Sienna and Florence, and many more, all were focussed, so to speak, around the "fatal house of Medici." Curtogali disappointed in his enterprise of kidnapping the Pope, vented his fury on the surrounding country.

Six years later we find this pirate chief commanding a division of the Turkish fleet which was sent against Rhodes, then the seat and stronghold of the Knights of Jerusalem. Guglielmotti's account of that famous siege—although necessarily much compressed—is very interesting. But we have not space to do more than allude to it here. Our present business is with Curtogali. On December 20, 1522, the place capitulated, on the 24th the Turks made a triumphal entry into Rhodes. The Sultan Soliman rode a magnificent courser, and was surrounded by a brilliant staff with all imaginable "pride, pomp, and circumstance." But the Moslem sovereign was not insensible to the sorrowful position of his vanquished adversaries. As he rode on to take possession of the fortress which the Grand Master, Prince Philippe Villiers l'Île Adam, had so long ruled over and so valiantly defended, Soliman said in a low voice to those nearest to him, "It weighs upon me somewhat that I should be coming hither to-day to chase this aged Christian warrior from his house." The two great antagonists desired to see each other. They met, Philip surrounded by his knights, and Soliman by a guard of Janissaries. The old Christian and the young Turkish warrior were so struck and impressed by each other's aspect, and doubtless by the rush of thoughts which their meeting under such circum-

stances gave rise to, that for a few moments they remained silent, gazing at each other without uttering a word. The first to break this singular and impressive pause was our acquaintance Curtogali, and thereupon ensued the usual speeches, and compliments, and ceremonies between the Turkish and Christian leaders. But although cloaked with some chivalric courtesy, the defeat of the knights was none the less hard and bitter to endure. At the commencement of the following year, they left the island, never to return. The last to embark was the old Prince Philippe Villiers. He was closely followed by his herald, who, at a sign from the Grand Master, raised his trumpet to his mouth and blew the strain familiar to the knights called "Salute and Farewell." That very same trumpet of the last adieu is still preserved in the museum at Malta, mute for evermore. Of Curtogali we here take leave. Our last view of him is as Prince or Governor of Rhodes, triumphant over his Christian enemies, and high in power among his Moslem countrymen.

The story of "Il Giudeo," the Jew, contains some touches of humanity rare in these bloody chronicles, and the end of it is strangely pathetic. This man was, as his name implies, a Jewish renegade. He was born at Smyrna, and acquired great riches by his piracies. The Arabs called him Sinâm, the Turks Ciefut Pasha, and the Italians Il Giudeo. After the conquest of Rhodes, the pirates infested the Mediterranean like a pack of hungry wolves; and Il Giudeo surpassed them all in astuteness and in an intimate knowledge of every creek and hiding-place along the coasts and among the islands. Monte Argentaro, Elba, Ponza, he knew them all, and could play at hide-and-seek among them with his swift, treacherous galleys. He had a fleet of thirty-four of them, and ravaged the coasts of Sicily, Naples, and the Roman States. For the most part he was successful and almost unmolested in his marauding expeditions. But once three ships belonging to the Knights of Rhodes, and commanded by Captain Paolo Vettori, made a raid upon the robbers and captured some pirate galleys off Gianutri, a tiny islet of the Tuscan Archipelago. But this was a

\* The conspiracy of Cardinal Petrucci and others of the Roman Curia to poison Leo, and for which Petrucci and some subordinate instruments of his attempted crime suffered death.

comparatively inimportant check to Il Giudeo. None the less for it did he scour the Mediterranean to his own great profit and the terror of the littoral populations. In 1533 we find him triumphantly carrying off from near Messina three vessels belonging to Andrea Doria, laden with silk—a very rich prize. In 1535 he defended La Goletta with a body of 6000 picked Turkish troops against the Christian armies commanded by Charles V. in person. The Moslems made a valorous defence, but were overpowered and compelled to fly to Tunis, where Barbarossa was then reigning, having forcibly seized that kingdom from the descendant of the ancient Berber dynasty of the Hafsi. Within the city of Tunis at that time were upward of 10,000 Christian slaves taken by the pirates. These were Spaniards, French, Germans, and, more numerous than all, Italians; people of both sexes and all ages and conditions, merchants, soldiers, knights, sailors, priests. These unfortunates, on the first approach of the Christian army, had been huddled into some underground caverns called the *Gune*, originally intended for storing grain. Barbarossa, seeing the fortune of war go against him, absolutely proposed to massacre all these helpless wretches, and was with difficulty dissuaded from his atrocious intention. Il Giudeo chiefly opposed it, and it was mainly owing to his intercession that the prisoners' lives were saved. This of La Goletta was a great and important victory for the Christian arms. Beside putting the enemy to flight and confusion, the Christians captured all the Moslem ships, without losing one on their side. Among the prisoners taken was Il Giudeo's favorite child, a boy of ten years old, who is stated to have been serving as a sort of cabin-boy on board one of the captured Moorish vessels. The child fell to the share of the Prince of Piombino, who caused him to be baptized, had him educated in all the accomplishments of a gentleman of that day, and brought him up in his own house, "where he lived honored and beloved by all."

Meanwhile Il Giudeo was advanced to even greater honors by the Sultan. Escaped from the disaster of La Goletta

and of Tunis, he was nominated Admiral of the Fleet of the Red Sea; the principal scope of which was to harass and oppose the Portuguese, whose progress in the Indies was giving umbrage to Soliman. Il Giudeo's headquarters were at Suez. He was enormously wealthy, powerful, and honored. But the terrible pirate had a heart. It is evident that his apostasy had not cancelled the strong parental affection so characteristic of his race, and of the teachings of the Hebrew religion; and he never ceased to lament the loss of his son. Nearly ten years after the disaster of Tunis, Barbarossa—another celebrated and especially truculent Moslem pirate—attacked the island of Elba, which was a possession of the Prince of Piombino. Barbarossa threatened to ravage the island with fire and sword, if Il Giudeo's son were not given up to him. This act appears to have been dictated less by friendship for his comrade in piracy than by greed of gain. There is little doubt that he expected the prince to pay a heavy ransom for the youth to whom he had become attached. Only a short time previous, the Republic of Genova had been compelled to the humiliation of buying him off from destroying Savona. However, the young man at once declared himself willing to go and see his father, as was right and dutiful, but stipulated spontaneously that the dominions of his benefactor, the Prince of Piombino, should be respected. Accordingly the baptized son of Il Giudeo set out for Egypt where his father anxiously awaited him. But when one day he appeared before him, a handsome, elegant cavalier, richly attired, and surrounded by a train of servants and attendants, the old man embraced his long-lost son in such a paroxysm and transport of joy, that "his heart burst and he fell dead." The circumstance is well attested by Bosio, Mambrino, Jovius, etc. And, as Padre Guglielmotti remarks, Il Giudeo was probably the only one of the dreaded company of Moorish pirates to whom it could possibly have happened.

Barbarossa's adventures were perhaps more varied and startling than those of any of his compeers, or at least more of them have been chronicled and particularized. But he was also superior to

the majority of his compeers in intelligence as well as daring. The son of a renegade Greek of Mitylene, he and his brother Oürudge early embarked in the career of piracy, beginning in great poverty—so much so that their first attempts were made in a wretched little cockle-shell of a boat, armed at the expense of some speculator (perhaps we should now say "contractor") in that line of business; they speedily amassed riches, and made themselves feared and famous. Kair ed-Din, corrupted by the Italian *cinquacentisti* into Ariadeno, and nicknamed from the color of his hair Barbarossa, was the leading spirit of the two. He was of middle height and herculean strength, with a red and very thick beard. His lower lip hung down and made him lisp in his speech. He was proud, vindictive, and treacherous. Nevertheless, he could on occasion assume considerable affability of manner, and his smile is said to have been peculiarly sweet. He spoke several languages with fluency, and Spanish by preference. At once courageous and cautious, he had a penetrating eye for the choice of his subordinates, among whom were numbered at various times such ornaments of the piratical profession as Cacciadiavoli, Il Giudeo, Hassan Aga (a Sardinian renegade), etc. He made a careful and fruitful study of the naval constructions of his time, and greatly improved the build and armament of the corsair vessels, making them lighter and fleetier than heretofore; for, as he was accustomed to remark to his lieutenants, a greyhound is better for the chase than a mastiff. In short, he was evidently no vulgar desperado, intent on petty plunder, but a leader of men, endowed with keen perceptions, cool daring, and Napoleonic unscrupulousness. It does not appear, however, that he made any pretence of carrying Mussulman "civilization" into Christian countries. He simply robbed and ravaged because he wanted booty and slaves. But the world has progressed since A.D. 1530, or so. We have seen that the Republic of *Genova la Superba* was induced to buy him off on one occasion. He plundered Calabria, Campania, and Nice; and in 1536 (*regnante* Pope Paul III. Farnese) he caused such a panic along the whole of the Italian

Mediterranean coast, that the Pontiff made a journey in person to hasten the armaments and defences of the Maremma, to visit the citadels, to comfort the people, and to encourage the troops and their leaders. In twenty-seven days he visited Nepi, Viterbo, Montefiascone, Orvieto, Gradoli, Capodimonte, Acquapendente, Toscanella, Corneto, Civitavecchia, and Cere. And then he turned his attention to the walls of Rome. Guglielmotti maintains that the modern fortifications of Rome and the works of Sangallo and Castriotto, in the part of the city called the Borgo, and at the Vatican, had their origin in the necessity for being prepared against the Turks, and especially against the terrible Barbarossa. One of Barbarossa's exploits was to disembark in the Island of Procida, in the Gulf of Naples, and from thence to burn, harry, and ravage the mainland in all directions. He bombarded Gaëta, he destroyed Sperlonga, he seized Fondi, a town in the present province of Caserta in the kingdom of Naples. And at this latter place he nearly succeeded in a pet plan of his, which was to carry off Giulia Gonzaga, widow of Vespasian Colonna, and reputed the most beautiful woman in Italy, and make a present of her to Sultan Soliman! The lady had the narrowest escape possible, being one of the first persons in the town to be aroused from sleep by the approach of the pirates, and hurrying away half-dressed. The town was sacked, and later the pirates burned Terracina, and finally they appeared on the Roman shores at the mouth of the Tiber. Such was the terror of the populations that contemporary writers are almost unanimously of opinion that Barbarossa might have captured Rome itself had he made the attempt. This, however, was not in his schemes. Having taken in stores of fresh water, and wood from the neighboring forests, he made off straight for Tunis. Here Muley-Hassan, the legitimate sovereign, was very far from suspecting what awaited him. But Barbarossa, with perfect frankness and absence of any diplomatic fashions whatsoever, turned the Tunisian monarch out of his dominions, and installed himself as ruler instead! After twelve years more of a brilliant and prosperous career, this re-

markable personage died in his bed at Constantinople, and was buried (July 1546) on the shores of the Bosphorus at Therapia. To this day the ruins of his tomb are to be seen there, picturesquely overgrown with moss and ivy.

The above are only a few brief pages from the varied chronicles of Mediterranean piracy, which are curiously and intimately connected with the history of European politics throughout the sixteenth century. And in our own times

the geographical position of that famous Barbary coast has again made it important in the councils of Europe. Nay, to go further back by many centuries, the Italians of to-day discover that Cato's warning about Carthage is not yet obsolete; and that the fresh figs from Tunis are more quickly transported to their coasts by steam navies nowadays than they could be carried in the Roman galleys a hundred and fifty years before Christ.—*Cornhill Magazine.*

#### ATHEISTIC SCIENTISTS.

BY JOHN STUART BLACKIE.

THERE is a sort of men whose faith is all  
In their five fingers, and what fingering brings,  
With all beyond of wondrous great and small,  
Unnamed, uncounted in their tale of things;  
A race of blinkards, who peruse the case  
And shell of life, but feel no soul behind,  
And in the marshalled world can find a place  
For all things, only not the marshalling Mind.  
'Tis strange, 'tis sad; and yet why blame the mole  
For channelling earth?—such earthy things are they;  
E'en let them muster forth in blank array,  
Frames with no pictures, pictures with no soul.  
I, while this dædal dome o'erspans the sod,  
Will own the builder's hand, and worship God.

*Good Words.*

#### THE "LADY MAUD."

BY THE AUTHOR OF "THE WRECK OF THE GROSVENOR," ETC.

##### CHAPTER XVIII.

I WAS awakened by Hunter. It was quite dark, for the moon had gone. I rose and went into the open air, and found the sky cloudless as I had left it, and the stars shining brightly. Some of the stars upon the horizon were so large and clear that they looked like the riding-lamps of ships lying close off shore, or lighthouse lamps. There was breeze enough to keep the water shivering, and the temperature was as chilly as an October night in England.

After a while I felt the darkness and the silence very oppressive. The sea made a peculiar moaning noise at the other side of the island, and the wind murmured with a complaining note among the trees where the hut stood. I

felt then, as I had often felt before when on board ship, that at sea loneliness is never a keener sense than on a quiet, fine night. Wrapped in shadow, the deep is a mystery, and the glorious stars, instead of cheering, chill the mind by their measureless distance, and by the soul-subduing wonder of the black and spacious heights they illustrate.

Along the beach where the breakers ran were thin lines of blue fire, and beyond, again, the phosphorus flashed and faded in the invisible swell as it coiled noiselessly along the ebony surface of the water. However, I fixed my thoughts upon the work that the sun would rise upon, and while I moved to and fro, plotting and planning and thinking over our wants when in the boat, and on what course I should steer



her, the east grew pale, and very quickly the dawn came. In that ashen light the sea and the island and the gray heaven of fainting stars made an indescribably melancholy spectacle. But soon the east became of a delicate rose-color, that swiftly brightened into a radiant pink; and then, as with a bound, the sun soared out of the sea, the heavens grew blue, the water sparkled like silver, and another brilliant, beautiful tropical day was born.

My spirits revived with the sun, and after glancing at the boat to see that she was all right, and running my eye over the beach to observe if any more wreckage had washed up, I set to work to collect a quantity of brushwood, and piling a portion of it in the fireplace that had been built, I unscrewed one of the magnifying lenses in the telescope, and very soon had a blaze. Then, to economize time, I went down to the boat, taking with me the shells we had used as drinking vessels, and baled her out. When she was dry I thoroughly overhauled her, and found her perfectly sound, with those exceptions I have elsewhere mentioned. I returned to the beach, and having selected a piece of planking fit to serve for a rudder, I fetched the chopper and a knife, and fell blithely to work to fashion a rudder. This, to be sure, was a very trifling job, and I had finished it, and was turning over the spikes in the carpenter's chest, to select a couple of them to bend into pintles, when Tripshore and Hunter came out of the hut, and before they reached me all the others appeared.

Hunter had forgotten what his work was, and when I reminded him, he at once returned to the hut and set to work to empty the beef-cask.

Tripshore and I then started upon rigging the boat. First we carried the topsail-yard down to her, fitted it with stays, and shaped one end of it with the chopper, so as to step it. The yard-arm sheave-hole was the very thing for halliards, and happily plenty of gear had washed ashore with the sails and yards to serve us with material for stays and rigging. When we stepped the yard we found it suited the boat to a hair. We securely set it up, meaning to rig the boat with a single lug, which, having regard to the hoist of her mast, would be

sail enough, and returned to the wreckage on the beach, to choose a piece of timber that we could split, and then fish the pieces, to form a gaff or yard.

However, feeling very hungry, we knocked off before tackling this job, and went up to the hut for breakfast. I shook hands with Sir Mordaunt and the ladies, and looking about me, asked where Hunter was.

"Why," said the baronet, "he has rolled the beef-cask to the well, to test it by filling it."

"Couldn't he have done that with salt water?" I asked.

"He asked me to explain," continued the baronet. "He said that after washing the salt out of the cask he would fill it. If it didn't leak, then, by lashing a couple of planks or spars, one on each side, to it, you and Norie and he and Tripshore could carry the cask full of water across the island, which would save the delay and labor of going to and fro to fill it with the kettle. If, on the other hand, it leaked, then he said he could repair it as well there as here."

"The man's no fool," said I. "That notion of carrying the cask full, direct from the well, shows forethought, for it certainly would take us all day, journeying to and fro, to fill it with the kettle. But how is he going to fill it? He's left the kettle behind." And I pointed to the kettle, that stood near the hut.

"He emptied Carey's work-box, saying that would do to bale out the water from the well."

I burst into a laugh. "After that," said I, "who will doubt that necessity is the mother of invention?"

As I said this I caught sight of Hunter coming round by the bushes. He was purple in the face with heat, and flourished the work-box as he came.

"Well, Hunter," I cried, "how have you got on, my man?"

"The cask's sound," he replied. "It's full o' water, and don't drain a drop."

"Capital!" I exclaimed.

"There'll be northen to do," said he, "but to lash a piece o' timber on either side, and bring the cask along, full, as it is. And the supporters 'll do to fix it in the boat with; ye'll have to keep it end up, and a few planks and a

piece o' sail-cloth 'll save it from sloping."

We all heartily praised his foresight. I asked Mrs. Stretton if we could have breakfast.

"Yes," she answered, in her simple way, and her fine, rich voice. "That kettle is full of turtle, Mr. Walton, ready to eat."

But before breaking our fast we knelt down, to offer up thanks to God for his merciful protection. I make no excuse for recording these prayers. They cheered us greatly. They reminded us of the Friend to whom we had been taught all our lives that no appeal is ever made in vain. They made us look up and feel that, desolate, shipwrecked, destitute as we were, yet with God to help us we should be as strong, our prospects as bright and sure, as though we were in a situation to supply all the means necessary to liberate us from this imprisonment. I particularly noticed that none of us were more earnest at these times than Tripshore. He had been an ocean sailor, and in spite of landmen's theories about Jack, I never knew a real sailor—I mean a genuine seaman, who has knocked about in big ships and looked danger in the eye, and knows the sea as a child knows its mother's face—who had not a veneration for God in his soul, who had not in his heart all the makings of an honest religious man, no matter how he covered up his instincts and assumed the indifference which he dropped when alone, or when a call was made upon his inner nature.

We made a good breakfast, for the turtle was excellent eating, though for salt we had nothing better than the brine in which the beef was pickled. We wanted water, however, and drew lots who should fill the kettle. It fell to Norie, who trudged off cheerfully, and was back before we had finished our meal.

If I was sure of finding no other audience than sailors, I would go closely into the preparations we made for leaving the island; but landmen cannot follow sea terms, and there is no other language in which a man can write about the sea than the language sailors themselves use.

As regards the rigging of the boat, we

had pretty well, all we wanted to our hands. Hunter joined us, having done with his cask, and before the sun had reached the meridian we had fitted the boat with a rudder and tiller, shaped some planks into the likeness of oars, fashioned a yard and bent a sail to it, and knocked the started thwart into its place.

This brought us to the dinner hour, and when we went to the hut to get something to eat, I found that Mrs. Stretton had cooked several pieces of beef, and that Miss Tuke and Carey had, between them, packed the biscuits in the maid's box, and stored all the best of the flour in the tinned-meat cases, which receptacles were compact, and to our purpose. I forgot Norie's share until we had done dinner, when Sir Mordaunt, taking my arm, led me round to the side of the hill, where I saw a rude cross firmly set up over the grave, and upon the cross-piece, in bold letters, "Agnes Brookes," with the date of her death. I put my hand upon the cross, and found it as firm as a tree.

"Norie has done his work very well," said I.

"He has, and I am deeply obliged to him," replied Sir Mordaunt. "The task has occupied him the whole morning. It was tedious work. He was forced to use a piece of rock for a hammer, as the chopper was constantly in use among you on the beach. I shall quit this island with a very different heart from what I should have left it had we sailed away and left her lying as she was first buried, without a stone to mark her grave."

He spoke with the tears coursing down his cheeks, and grasping my hand, he thanked me for the sympathy I had shown him, and the readiness with which I had complied with his wishes.

I left him while he knelt down to say a short prayer, for the time of our embarkation was close at hand, and I hoped to have put the island out of sight before the sun was gone. I called to Norie and the men, and told them that our next business was to go across the island and fetch the beef-cask. They were ready to accompany me, so arming ourselves with some seizings and a couple of pieces of timber, we marched across the island to the well.

We found the cask standing full of water as Hunter had left it. It was as tight as a shell, and on tasting the water I perceived that Hunter had carefully cleansed the cask of the salt. We lashed the pieces of timber to it, and the four of us stooping at once, we got the bars upon our shoulders and raised the cask, and away we went with it, keeping step, and presently landed the cask on the beach close to the boat.

But after we had put the cask down, and I had looked from it to the boat, I found myself glancing at the sherry-cask under the trees. It was a smaller cask by several gallons, but much stronger, and fitter for the storage of water.

"I doubt," said I to the others, "if there'll be room in the boat for both casks. Yonder cask should hold as much water as we are likely to need."

"I have been thinking of that, too, sir," said Tripshore. "The little 'un 'll be the better cask for us."

Both Hunter and Norie were of the same opinion.

"Then," said I, "I'll tell you what we'll do. This rain-water is not over sweet: we'll leave about a third of the sherry in the cask there, and fill it up with water, and that will maké a refreshing drink."

This was thought a good notion; so we went to work and let run about two-thirds of the sherry, filled up the cask with water, and fitting in the head of it, which had been knocked out, got the cask into the boat, and securely lashed it amidships. We then brought down all the provisions we meant to take with us; fixed the little tell-tale compass to the after-thwart, put the telescope into the boat, took in some cloths of canvas to serve as a spare sail, and all being ready, we hauled the boat round to a point where the women could step aboard.

#### CHAPTER XIX.

It was about two o'clock in the afternoon, the sun fiercely hot, and a little breeze blowing from the eastward. After the women were in, we put the dog aboard, and then the rest of us entered. I had been greatly afraid that all this freight would sink the boat very deep; but when we were all in I

was rejoiced to perceive that, in consequence of the boat's beam, the point of immersion was not so high by a streak as I had feared.

I took the tiller, and on either side of me sat Miss Tuke and Mrs. Stretton. Sir Mordaunt sat next his niece, and Norie next the widow. Carey occupied a thwart just abaft the mast. The dog was in the bows, and the men forward, working the paddles to bring us clear of the reef.

In this manner we went along until we had got the westernmost point of the reef under our stern. The men then threw in their paddles and hoisted the sail. There was a pleasant little breeze, as I have said, and the moment the boat felt the pressure, she began to run, making a pretty tinkling sound of water along her sides, and leaving two thin lines of foam and bubbles astern of her, and rolling over the swell very buoyantly.

I had made up my mind at starting to try for the land that was in sight, and accordingly headed the boat for the direction in which it bore, steering by the compass, for the land was invisible from the level of the water. I then asked Norie to lend me his pencil, and being without paper, drew a rude chart upon the after thwart; that is, I made a mark to signify the island we were leaving, and set down N. E. S. and W. around it, according to the indication of the compass.

Miss Tuke asked me what I was doing.

"We shall require to know the bearings of the island we were wrecked on," I replied; "for unless we get them it will be a thousand to one if ever we shall be able to recover the remains of Lady Brookes."

Sir Mordaunt instantly pricked up his ears.

"How will that help us, Walton?" he asked eagerly.

"If I mark off our courses," I replied, "then, should we be picked up by a vessel, or make inhabited land, we shall be able to calculate by the latitude and longitude of the vessel, or the land, whereabouts our island is. Of course we cannot hope to be quite accurate, because we shall have to guess our rate of sailing. But we shall be sufficiently

near the mark to render the search for the island easy to any vessel you may send for the coffin."

He was much touched by this proof of my anxiety to help the wish that lay so close to his heart. But Sir Mordaunt Brookes was a man for whom I had a sincere affection, and there was little, indeed, I would not have done to serve him.

After I had made my scrawl on the thwart, we sat all of us for a while in silence, looking at the receding island and the passing water. It was a most perfect tropical day, both sea and sky of a dark, unspeakably pure azure, and wind enough to propel the boat along at about four land-miles an hour. But the sun was terribly fierce, and scarcely endurable. Sir Mordaunt wore Tripshore's hat, and Tripshore had on a woman's straw hat that had come ashore in Carey's box. Norie had twisted a kind of a turban cap for himself out of a piece of canvas, and was the best off of us all, as the stuff was white, and kept his head cool. But to sit in that boat without any protection, for the sun was almost directly overhead, was like leaving ourselves to be slowly roasted alive; and unable to stand the heat any longer, I called Hunter and Tripshore aft, to spread the spare sail as an awning, which, after some trouble, they succeeded in doing, by setting up a couple of paddles as stanchions, and making the clews of the sail fast to them.

This shade afforded us indescribable relief, and helped us to pluck up our spirits, which really swooned in us with the heat.

"Look what a little bit of a rock that island is!" exclaimed Miss Tuke, pointing astern. "What a hard destiny, that with all this wide sea around us, we should have struck upon that tiny spot!"

"Ay," said Sir Mordaunt, "but it would have been a harder destiny had we struck without being able to land upon it."

"Are you pretty comfortable, Mrs. Stretton?" said I, turning to the poor woman by my side, who sat with her hands on her lap, and her fine eyes fixed upon the sea.

"Yes, thank you, Mr. Walton," she answered. "Will you let me ask, if

the island you are aiming for is not inhabited, how you will steer?"

"To the southward and eastward," I said; "because we were bound to be well to the north when we struck, and by steering south and east we can hardly fail, even if we miss the populated islands, to drive into the channels where we shall encounter ships."

"Which channel do you suppose will be the nearest?" asked Norie.

"I wish I knew. I have the names of three channels in my head—Crooked Island Passage, Mariguana Passage, and the Caicos Passage—but how they bear, and which one is nearest, I have no more idea than that dog."

"By heading as you propose, Walton," said Sir Mordaunt, "is there not a chance of your missing the land, or drifting out of the track of ships?"

"No," said I, "because by so steering we're bound, if we keep going on long enough, to run down one of the West India islands."

Foot by foot as we went, the island we were quitting grew smaller and smaller, and its features became indistinguishable in a kind of hazy yellow. The land for which we were trying was visible over our bows, but it was still too far off to make sure of, even with the glass, though my belief was, after a long inspection of it, that it was no more than a cay, similar to the one we had left, but bolder and larger.

Such minute objects as those two specks of land presented heightened rather than impaired our sense of the vast surface of water on which we floated. In such weather as this we were no doubt as safe in that boat as if we had been aboard a thousand-ton ship; and yet it was impossible to cast our eyes upon the water within a few inches of the gunwale, and then follow the mighty space of gleaming blue to where it met the heavens, without a shudder at the nearness of the great deep. I remember saying to Tripshore, who sat forward, I could not imagine that these wide waters were never traversed by vessels.

"But, sir," said he, "if, as you have all along reckoned, we're in the thick of the Bahama clusters, there's ne'er a vessel as 'ud have any business here."

This was true, and very soon after he



had made that answer, the reason why this sea was desolate was vigorously brought home to me by an exclamation from Hunter, who had been hanging his head over the side; for looking to see what had made him call out, I found that the boat was at that moment gliding over a reef that might have been one or ten fathoms below us, for aught I could tell, though it seemed to be within arm's length, so exquisitely transparent was the blue water. The reef was white, and gleamed like silver set in dark blue glass. It was evidently very precipitous, and no more than a narrow shelf, for when we had passed it by a boat's length we could see nothing but the fathomless blue under the side. In the course of time that submerged reef would raise its head and become an island, with trees and vegetation. It was wonderful to see land, so to speak, in the very making of it.

The sun was fast approaching the sea by the time we had neared the island we were heading for; but long since we had discovered with the help of the glass that it was no more than a cay, uninhabited, with a high rise of land, hard upon forty feet tall, at the northernmost point of it. We could see the sandy beach and the flat land stretching from the foot of the rise, covered with brushwood and trees; and what was more, we could perceive the water all round it studded with reefs, upon which the swell broke in flashing floods of foam, that were blood-red in the rich evening sunshine.

"There's no use going any nearer," said I.

"No, sir, we're near enough," cried Tripshore. "Any one of them reefs would rip the bottom of this boat out of her."

Without another word I eased off the sheet and put the helm up, and presently we had the island on our quarter, and the sun beyond, a great red shield going down without a cloud, and the water beneath it a sheet of molten gold, the extremity of which seemed to touch our boat's side.

Whilst daylight remained we served out supper. We also took down the sail we had used as an awning, and spread it at the bottom of the boat for the women to lie on when they felt dis-

posed to sleep. Before I ate my allowance of food I gave the tiller to Norie, and stood up against the mast with the glass, with which, taking advantage of the singular brightness and clearness of the atmosphere at this hour of sundown, I carefully swept the water line, but failed to detect any other object than the island astern and a fragment of the island we had quitted quivering on the horizon in the north-east. The others watched me eagerly as I ran the glass round the sea, but nothing was said when I exclaimed that there was no vessel to be seen. Indeed, if I could judge their feelings by mine, they were too deeply glad to be in this boat, and sailing away from the island, to find a cause in the vacant sea-line for worrying their hearts. Only a few hours ago our prospects were horribly dark. We were, so to say, locked up on a desolate rock. In their misery and abandonment my companions had sanctioned Hunter's mad scheme; and now here we were in a brave stout boat, a beautiful heaven above us; we were well stocked with provisions, and in respect of accommodation, not much more inconvenienced than in the hut.

We watched in silence the going down of the sun. It was a noble sight, and full of unspeakable pathos to people in our situation, and to the half-despondent, half-hopeful temper we were then in. The breeze followed us, and the sun was on our right. I wondered when that sun set again where we should be. It had shone that day over our beloved country, it had looked upon dear friends and dear scenes, and now it was going down upon our little boat, a speck, unseen by any eye but God's, upon the golden surface of this glorified western ocean. I believe all our thoughts ran somewhat in this way, for, as I have said, none of us spoke whilst the orb was sinking. Even the two seamen looked toward it in rapt postures, and when the last flashing fragment of it vanished, we all drew a deep breath and turned to gaze at one another, and I observed that Mrs. Stretton was crying, but very silently, and in a way that made us see that any notice taken of her would pain her.

"We shall have the moon with us for the greater part of the night," said I;

"and that beautiful sky cannot deceive us. It is full of good promise."

"How fast are we sailing, Mr. Walton?" asked Miss Tuke.

I answered about three and a half miles an hour.

"How short the twilight is!" cried Norie. "Look behind you, Walton. The sky is full of stars. The darkness in the east and that brightness in the west give you night and day side by side."

"Couldn't you spin a yarn, Mr. Walton?" said Tripshore. "There's northern like stories and songs to keep the heart up."

"But our hearts are not down, Tripshore," I replied. "Our chances are too good for that. Can you sing?"

"A trifle," he said. "But if it's to be singing, I'd rather not be first."

"Well, I'll break ground by telling an adventure," said I; "and when I'm done you'll give us a song."

"Right, sir."

I reflected a bit, and then spun them a yarn about an adventure I met with at a little Chinese village up the Yellow River. Three or four of us, being ashore, had missed our way, and coming to this village, endeavored to obtain beds for the night, but were everywhere repulsed. Being determined not to lie in the fields, we forcibly took possession of a little house, and went to bed in it. In the middle of the night I and one of my companions, who lay with me on the top of a mattress, felt it moving, and getting up and tumbling it over, we found the owner of the house and his wife under it, half dead with fear and suffocation.

When we dragged them out, they made such a noise that a crowd of the villagers came to the house. We feared for our lives, but there was no light, and we had to grope our way. I missed the way, and coming to a door, opened it, and put out my hand to feel, and stroked my fingers down a Chinaman's face, the door I had opened being a cupboard, and the man in it hiding there in terror of us. I made them laugh with my description of the horror I felt when I stroked down this naked face. I took it to be a dead man, but not being sure, half closed the door to prevent him coming out, and felt for

him again, till I came to his bit of a nose, which I pulled until he screeched out, on which I scrambled across the room, and coming to a door, made out of the house by a back way, and ran for my life.

This story put Norie in mind of a hospital adventure, and when he was done Tripshore sang. He had a strong voice and a correct ear, and his song was a sailor's song, the melody of which was the windlass chorus, "Across the Western Ocean." Hunter and I knew the air, and guessing at the words, we helped Tripshore by joining in at the end of every verse.

By this time the night was all about us, the moon brightly shining, and the great stars flaking the sea with their trickling silver. These crystalline reflections were made exceedingly beautiful by the play of the phosphorus in the sea. The mysterious fires rolled with the swell, and resembled puffs of green steam. The water broken by the boat's stem tinkled through our voices like the bubbling of a fountain, but so strongly phosphorescent was the sea that our wake was a line of fire; and when Miss Tuke leaned over to look at it, I saw it shining in her eyes and shimmering upon her face, as though phosphorus had been rubbed over her skin.

Our story-telling and singing not only killed the time, but did us good by distracting our thoughts from our position. I kept the ball spinning as long as I could, and then we fell into general conversation, in the midst of which, and whilst the seamen in the forward part of the boat were arguing upon the bearings of the island we had left, and whilst Norie, who had taken a seat next to Miss Tuke, was talking with her in low tones, I found myself asking Mrs. Stretton what would be her plans when she arrived at Kingston.

"I hardly know, Mr. Walton. I feel like an ocean stray. Besides, I may not be able to get to Kingston, for, should we be picked up by a vessel, we can scarcely suppose that she will be bound to that place."

"Have you no friends in Ireland?" I asked.

"Yes, but they are poor. They will be able to do nothing for me."

"You have other friends who are

not poor," said Sir Mordaunt, gently. "Your future need give you no anxiety."

She held her peace, perhaps scarcely understanding him. But I did. Indeed, I had all along suspected that if our lives were preserved my great-hearted friend would stand by this poor woman whom he had been instrumental in rescuing from a horrible death.

I thought the hour would now be about nine, or even later, and counseled the women to lie down and take rest whilst the boat ran quietly. There was room for all three of them to lie upon the sail in the bottom of the boat, and as Miss Tuke hung back, I got Carey to set the example. She crouched down and got under the thwarts, and when she had stretched herself along the sail she said she was very comfortable. Then Mrs. Stretton lay down, and, after a little persuasion from her uncle, Miss Tuke crept under the thwarts. So there were the three of them, snug enough. The end of the sail rolled up furnished them with a pillow, and the other end was turned over them. The thwarts, overshadowing their faces, protected them from the moonlight and the dew.

As for us men, there was nothing for it but to sleep as we could. The seamen and I divided ourselves into watches, as we had done on the island, it being arranged that I should steer and keep a lookout for the first two hours. These fellows made no trouble about sleeping. Tripshore put his back against the mast, folded his arms, dropped his head, and was asleep in a few moments. Hunter was bothered at first to pose himself comfortably. He tried first one place, then another, until at last he hit upon a posture that pleased him—in the eyes, with his face looking aft, and the dog bolstering him on the right side, and in a short time he was as motionless as the other.

But neither Sir Mordaunt nor Norie could go to sleep for some time, though the doctor closed his eyes and kept his head hung. Sir Mordaunt, indeed, did not try to sleep for a while, but sat close against me, speaking in whispers. We had much to talk about—our cruise, our shipwreck, Lady Brookes' death, our present position, and our chances of preservation. At last weariness mas-

tered him, his voice failed him, and he began to nod, and soon, by his regular breathing, I knew he was asleep.

The breeze held steady; a little more weight had come into it before Sir Mordaunt fell asleep, and the sail pulled well. The narrow furrows of the sea ran in short flashes of foam and broke up the starlight in the water, but gave instead a brilliant surface of phosphoric radiance. On our starboard beam the ocean was a tremulous field of moonlight, but the horizon in the north was very dark, though the lustre of the moon made the sky pale to a long distance beyond the zenith. The water seethed at the boat's stem, and the sobbing sounds caused by the eddies in the wake were very mournful for me, a solitary listener, to hearken to. Indeed, it was a solemn time. It was not only the thoughts of the narrow planks which lay between us and eternity, nor the speculation as to the future, that was forever active in me. It was the being surrounded by sleepers; it was looking into the bottom of the boat and seeing the glimmering faces of the women in the darkness there; on one side of me the baronet, with the moonlight shining on his hollow countenance, in which all the anguish of the past few days had left an imprint cruelly visible, even in that colorless light; on the other side Norie, who had met misfortune as a gallant man should, helping us all as heartily as was in his power, peacefully resting, with his chin upon his breast and his arm hanging idly down; and forward the figures of the two men and the dog, dark as bronze statues, and as motionless. I say, it was the looking first at those silent and unconscious beings, and then away at the leagues of sea, and the serene stars, and the silver moon, poised in the silvery blue ether, that made this watch of mine as solemn to me as a long prayer. The sense of loneliness no pen could express. The slumber of the people about me heightened it. Now and again one would mutter softly; once there came a laugh from the bottom of the boat; frequently I would hear a deep sigh, that sounded above the mild complaining of the wind in the sail and the delicate hissing of the passing water.

Again and again I stood up to search

the water, and shortly before I called Tripshore I thought I saw a darkness on the sky over the starboard bow ; but when I pointed the telescope at it I could see the stars there shining down to the very level of the deep.

But the bright moon was very comforting. It enabled me to see all my companions, and to command a wide expanse of water, which was like giving the soul breathing room, for nothing is more terrible than darkness to persons placed as we were. It seems to cloak and muffle up the instincts, and fold up the spirit as though it were death's mantle. Besides, I could watch the compass, and know how we were heading.

I held my place longer than two hours, as I believe, wishing Tripshore to get all the refreshment he could out of his spell of sleep ; but I grew so drowsy at last that, lest I should unconsciously fall asleep myself, I was forced to arouse him. I had to awaken Norie, to hold the tiller, whilst I went forward to call Tripshore, not choosing to sing out to him and disturb the others. But before doing this I made a calculation of the distance run since we had left the island, and scribbled the figures down on the thwart.

At the first touch the seaman started up. I whispered to him that his watch had come round ; and then telling him to keep the boat dead as she was going, to look smartly about for ships, and to call me if the wind drew ahead or the weather changed, I took his place, and speedily fell asleep.

#### CHAPTER XX.

WHEN I opened my eyes again, the dawn was just breaking, and I discovered, to my wonder, that I had slept right through the night. No one had aroused me. My limbs were as stiff as broomsticks, from having been kept in one posture for so many hours, and my clothes were saturated with dew. I gaped with something of astonishment at the scene of sky and ocean, for it was not easy to immediately realize our position. And then again the sight my eyes encountered was very striking for a man whose senses were struggling out of the cocoon of sleep to behold ; for the dawn in the east lay in the sky like a sheet of

delicately green grass, faintly illuminated at the water line, and melting into blackness as it approached the zenith. But the rest of the heavens were wrapped in night, and the sea was of a pitchy black, even under the dawn, which made the horizon stand out against it with fearful distinctness.

But, even as my eye rested on that strange, cold, pallid green light, it changed its color into primrose, the sky brightened into sapphire and gold, and the sun showed his flaming head.

Hunter was at the helm, and Tripshore asleep in the bows of the boat, but the sun woke him up ; and as I sat rubbing my legs, to get the blood to circulate, and looking around me, Sir Mordaunt called good-morning to me, and then Norie ; and glancing at the bottom of the boat, I perceived that everybody was awake.

I scrambled off my perch and helped the women on to their feet, and was glad to learn that they had all managed to get some sleep. Then, taking the glass, I planted my back against the mast and searched the sea, that was now brightly illuminated by the soaring sun, but to no purpose : there was nothing to be seen.

The breeze that was propelling us when I fell asleep still blew, the water was smooth, and the morning had broken with a cloudless sky. Both Hunter and Tripshore told me there had been no change of wind or weather in their watches, and when therefore I made a calculation to jot down upon the thwart, I reckoned that we could not have run less than forty miles from the time of our leaving the island.

"It is impossible," I exclaimed, "that we can go on sailing very much longer without sighting land. That we have not made land sooner, I can only account for by supposing that the island on which we were wrecked must be lying further to the eastward than we have imagined."

"In that case, ought we not to steer more to the westward, Walton ?" asked Sir Mordaunt.

"I hardly think so," I replied. "Our object is to meet with ships, and not to box ourselves up among a mass of reefs and cays and uninhabited islands."



"Is the compass right, sir, d'ye think?" inquired Hunter.

"Yes," I said, "judging from the bearings of the stars, and the rise and set of the sun."

"Oh, Mr. Walton," cried Miss Tuke, "I hope we shall not have to pass another night in this boat!"

"Courage, Ada, courage!" exclaimed the baronet. "See what a beautiful day has come. Let us think of ourselves as a pleasure party blown out to sea further than we intended to go. There is no danger; a little patience, my love, and all will be well;" and he looked at her, lightly shaking his head, and smiling mournfully.

I glanced at her, to see how she bore all this hard usage of the sea. Her roughened hair, her pale face full of deep anxiety and grief, her apparel creased and defaced by the wet and the wear and tear of shipwreck did not in my sight, at all events, in the least degree impair her beauty. Indeed, I could not help thinking that all this disorder of attire, and the wild sparkle in her pretty eyes, and the restlessness of her movements and glances, gave her charms a character that accentuated them with a fresh and fascinating picturesqueness. Norie appeared to share in this opinion, for he would frequently look at her with fervent admiration.

Mrs. Stretton, on the other hand, was much more passive. She gazed dreamily at us with her fine dark eyes as we conversed, yet was always quick to give a smile to any of us who met her glance. She had a rougher appearance than Miss Tuke, owing to her black hair, which, as I have elsewhere said, was remarkably abundant, and hard to stow away without combs and hairpins and such things. She, too, was very pale, but her lips were red and healthy, and her eyes clear and shining.

Of the women, indeed, Carey endured these trials the worst. She had been a plump, piquant little woman aboard the "Lady Maud;" but now her cheeks were fallen in, her eyes sunk and the hollows dark, her lips pale and dry and tremulous, and the expression of her face was haggard, like that of a sick person. I should have supposed that a woman in her station of life would have borne hardship very much

more stubbornly than Miss Tuke. But the truth is, and most men's experience confirms it, the more thoroughbred a woman is, the more effectually can she cope with and support trouble. I would rather any day be in peril with a lady, with no experience whatever of hardships, than with a woman of mean extraction, who has had to rough it, who has had to work, and who therefore you might imagine would be a great help in time of danger, or when hearty activity or the negative virtue of fortitude was wanted.\*

Carey's box, that had already done service as a baler, was now used as a washbasin. I filled it with salt water, and the women refreshed themselves by bathing their hands and faces. We men cooled ourselves by splashing up the water over the side. This done, I served out some salt beef and biscuit.

I had taken Hunter's place, and was steering the boat, eating with one hand and balancing the tiller with the other. The seamen were forward, Hunter feeding the dog. I was pointing to the figures I had scribbled upon the thwart, and Sir Mordaunt was calculating with me the distance we had traversed, when I was startled by a vehement cry from Tripshore, and, raising my eyes, I saw him standing with his arm around the mast, and pointing to the sea over our bows.

"Sail ho!" he yelled.

At this magic sound the whole of us sprang to our feet as one person. The sun being well on the left of us, the horizon ahead was beautifully clear and the sea a soft violet, and upon it, quite visible to the naked eye, was a speck of white.

I snatched up the glass and pointed it.

"Yes," I cried, "it is a sail!"

Miss Tuke clapped her hands, and gave a loud hysterical laugh.

"Which way is she standing, sir?" shouted Tripshore.

"I can't tell you yet," I replied.

"She will be a square-rigged vessel, I believe, for what is showing of her canvas is square."

"Let me look at her," exclaimed Sir

\* Lady Brookes' behavior may be quoted against me, but it will be remembered that she was an invalid.

Mordaunt, in a voice quivering with excitement.

I gave him the glass. He crossed over to the mast, to rest the telescope against it, and took a long, long look, but could make no more of the object than I.

"But it *is* a sail, uncle?" cried Miss Tuke.

"Certainly it is," he replied; "but it is impossible to tell which way she is going."

The glass was passed from hand to hand.

"Let us finish our breakfast," said I, sitting down again. "Though that vessel should pass without noticing us, it is enough that we have seen her to prove that we are in navigable waters at last. There will be other vessels about, though we should miss yonder one: be sure of that."

They all seated themselves except Tripshore, who had the glass, and kept it fixed on that small white spot; but though Sir Mordaunt and Miss Tuke pretended to eat, I saw that the sight of that sail had taken away their appetite. They could not remove their eyes from the horizon where that gleaming speck was.

I dare say my own emotions were not less strong than theirs, but I perceived the need of assuming an unconcerned demeanor, so that, if the vessel passed away from us, I should be able with a good face to say that her disappearance signified no more than another spell of patience for us, and that other sails would be showing before sundown. Nevertheless, I was looking, too, all the time, at that distant sail, and every moment growing more and more puzzled by its steadiness and appearance.

"If yonder is a ship," I exclaimed at last, "she is bound to be coming or going our way. We are heading a steady course, and should have noticed by this time if she is crossing our hawse. But she's mighty slow if she's coming our way, and if she is steering as we are, what manner of vessel must she be to let a boat like this overhaul her?"

"What do you make of her, Tripshore?" called out Sir Mordaunt.

"Why sir," he answered, "it looks to me as though that bit of white is the

main-royal or topgallant-s'l of a ship heading south."

"But do we rise it?" I asked.

"No sir. All that it does is to grow bigger, without rising," he answered.

I told him to pass me the glass, and I took another steady look. The object was unquestionably a ship's sail—apparently, as Tripshore had said, the main-royal of a ship; it was square, and white as silver; it was certainly bigger too than it was when I had first looked at it, which struck me as most extraordinary, for the enlargement of the sail proved that we were approaching it, and I could not conceive how it was that other portions of the vessel did not show themselves.

"No use speculating," said I; "we must wait and see."

There was a light swell rolling up from the westward, that made the water look like a waving sheet of dark blue shot-silk; the sea was crisped with little foamy ripples, which ran along with us; but the sun had gathered its fires fast, and was pouring them fiercely down upon our unsheltered bodies; whilst the atmosphere seemed almost breezeless, in consequence of our being dead before the wind. At intervals a number of flying fish would spark out of the melting glass-like blue of the water, and scatter in prismatic flashes. A frigate-bird came up out of the north, and hovered at a height of about thirty feet over the boat, balancing itself on its exquisitely graceful wings for a minute or so, and then fled and vanished like a beam of light. But we took no notice of these things, nor of the stinging heat of the sun, our thoughts being chained to that sail ahead, that was slowly enlarging its form, but never rising, so as to exhibit other sails beneath it.

"That's no ship, sir," said Hunter, breaking a long silence.

"It looks like a small lugger-rigged boat," exclaimed Sir Mordaunt.

"It certainly is not a ship," said I.

We waited and watched. The sail was a most clear object now, and with the naked eye we could see that it was well on this side the horizon—indeed, the blue water-line rose beyond it.

On a sudden Tripshore let drop the glass to his side, and, looking around, motioned to me with his head. I

quitted the helm, and clambered over to where he stood.

"Look!" said he, in a low voice, with a note of horror in it. "You may see what it is now."

His manner startled me. I took the glass hurriedly, and levelled it.

"My God!" I cried, "what a meeting!"

It was the raft we had sent adrift on the preceding day! The sail was full, the strange machine was swarming along steadily, at the masthead was the piece of inscribed plank, forming a cross upon the water, and with his back to the mast sat the dead messenger.

My blood ran cold. It was a dreadful object to encounter upon that lonely sea. And now that it was come, the disappointment stung me like the very fang of death. I looked round upon my companions with a hopeless face.

"What is it?" cried Miss Tuke, instantly remarking my looks.

"The raft we sent afloat yesterday," I answered.

She hid her face in her hands. Sir Mordaunt sat looking at the thing with stony eyes, but neither he nor Mrs. Stretton nor Carey made any observation. The raft was right ahead, and in a short time we should be up with it. To us, who knew what its freight was, it was bad enough to have even the sail of it in sight; but to come within eye-shot of the corpse, that would by this time be a most loathsome object, was a thing that would have been unendurable to our shaken and agitated and weary hearts. Interpreting my companions' thoughts by my own, I returned to the helm, and headed the boat into the west. This brought the wind abeam; the little craft felt the increased pressure and buzzed along sharply, riding over the swell, that was now dead ahead, like a cork.

I whispered to the baronet that the corpse would have been too shocking an object for the women to see.

"Yes," he answered, under his breath; "and for us too. I could not have borne it. But I hope, now that the raft can no longer serve our purpose, it may speedily go to pieces. The inscription will set people hunting for us."

"If we are rescued, the news will soon get about," I answered.

We drew rapidly away from the forlorn and dismal fabric, yet it excited a fascination that constrained me to keep on stealing glances at it. The condition of mind to which our shipwreck had reduced me was well qualified to furnish a wild and ghastly significance to that dead seaman sailing along out there. I could not dispossess my imagination of the idea that he was following me with his eyes, and I figured a kind of blind upbraiding in them for leaving him in that mocking, unconsecrated plight. I had the face before me as I had seen it when we sent the raft adrift. It was a dreadful memory to come into my mind at such a time, and a foolish disposition to shed tears assured me of what I had not before suspected, that our hardships and anxieties had lamentably reduced my strength, and that, if we continued in this state much longer, those weakly women there would be able to boast of much more physical stamina than I.

I believe this very thought was in my head when I was aroused from the miserable reverie into which I had sunk by Hunter shouting, "Sail ho!" at the very top of his voice. I started up savagely, maddened for the moment by the fear of another disappointment. The man was pointing into the north-west, and Mrs. Stretton and Miss Tuke, clinging to each other, looked wildly in that direction, while Sir Mordaunt and Norie stood peering, with their hands shading their eyes.

"Do you see her, sir?" shouted Hunter. "It's no raft this time! See how she rises!"

I looked, and saw a sail—this time no raft indeed, as Hunter had said, but a vessel swiftly rearing her white canvas above the blue, inch by inch, foot by foot, so that, watching her with the glass, I saw her fore course come up until the arching foot of it was exposed, and then the glimmering top of the black hull quivered in the refractive light upon the water-line.

She was heading dead for us. Until we were sure of this, no one spoke; but when I cried out the news, Tripshore and Hunter and Norie uttered a loud hurrah! Miss Tuke clasped her

hands above her head, and gave a long, mad laugh ; Mrs. Stretton sobbed as if her heart would break ; Carey fell a dancing in the bottom of the boat ; and Sir Mordaunt threw his arms round my neck, and with his head lying on my shoulder, breathed like a dying man.

I broke away from my poor friend, and bawled to Hunter to lower the sail and stop the boat's way ; and, whipping a handkerchief out of Norie's pocket, I fastened it to one of the paddles, and bade Tripshore stand up in the bows of the boat and wave the signal.

The vessel came down upon us fast. What her rig was I could not yet see. She had a main skysail set, and a coil of foam sparkled at her glossy sides, and ran up the sea behind her in a flashing white line. We had cheered, and given way to the passion of excitement and rapture that the sight of her had kindled in us ; but we grew silent very soon, and watched her coming breathlessly. I knew her people could not fail to see us. But would they heave-to ? Would they attempt our rescue ? We had to find that out, and the waiting was such mental agony as there are no words to convey any idea of.

One of the most moving memories which my heart carries of our shipwreck, is the faces of my companions turned toward the approaching vessel. Expectation had so wrought upon their lineaments as to harden them into the severity and immobility of marble ; they looked to have been petrified at the very moment when their staring eyes, their parted lips, the forward posture of their heads, showed that the hope and the fear in them were at their greatest height.

Suddenly Tripshore turned his gaping face aft, and cried, in a hoarse voice of triumph, "She'll heave-to, sir !" And, as he said this, the vessel, with her mainsail hanging in the leech-lines and her skysail halliards let go, slightly shifted her helm, and went past us at a distance of about five times her own length, drawing out as she passed into a small handsome barque of about three hundred and fifty tons, with a clipper bow and elliptical stern, a low free-board, and a white netting round her short raised after-deck. From this

point, that was apparently the roof of a deck cabin, several men were watching us, and forward a small crowd of heads overhanging the bulwarks. As soon as she was to leeward of us, she put her helm down, swung her foreyards, and lay hove-to.

"Out with your paddles, men !" I shouted ; and, in a fury of impatience, Tripshore and Hunter threw over the rude oars, and the boat went slowly toward the barque. As we approached, we were hailed by one of the men on the poop,

"Boat ahoy ! What boat is that ?"

I was overjoyed to be addressed in English, for I had feared from the appearance of the vessel that she was a foreigner. I put my hand to the side of my mouth, and shouted back :

"We are the survivors of the passengers and crew of the schooner yacht "Lady Maud," that was lost four days since on a cay about sixty miles distant from here. We have been adrift since yesterday. Will you take us on board ?"

He waved his hand, and answered, "Yes, yes ; come alongside. But is that another boat out there ?" pointing in the direction where we had last seen the raft.

"No," I cried. "I will explain what that is when we get aboard."

A rope was flung to us, the gangway unshipped, and some steps thrown over. All hands had assembled to see us arrive. The first to be handed up was Miss Tuke ; she was followed by Mrs. Stretton and Carey ; then went Sir Mordaunt and Norie, the rest of us following with the dog. On gaining the deck a giddiness seized me, and I had to keep fast hold of the arm of the man who had helped me up the steps, to save myself from falling. It was, in truth, the effect of a wild hurry of conflicting emotions ; but a short stern struggle subdued the sensation, and glancing around at the men, who were staring at the women and ourselves with open mouths, I asked for the captain.

"I'm the master, sir," said a quiet-looking, sunburnt man, who stood close to the gangway.

I grasped his hand and shook it, and then, without further preface, told him our story, briefly indeed, though I gave him all the facts.



"Well sir," said he, when I had done, glancing at Sir Mordaunt very respectfully, "you've had a hard time of it, and I'm glad to have come across you. This barque is the 'Princess Louise,' from New Providence to Porto Rico. I hope Porto Rico isn't out of your way?"

"No," I answered. "We should be able to get to Europe from Porto Rico without trouble."

"Certainly," said he. "But we sighted a small boat out yonder. Does she belong to your people?"

I told him that she was a raft we had sent adrift from the island, with a board at the mast-head inscribed with the circumstances of our shipwreck; but I said nothing about the dead man on it. I then begged him to tell us what reckoning his vessel was now in, explaining that Sir Mordaunt Brookes was anxious to have the bearings of the rock on which we had been wrecked, that he might recover the remains of his wife for interment in England.

"Can you give me your course, and distance run?" said he.

I answered that it was jotted down on the after-thwart in the boat. He at once went over the side into the boat, entered the figures in a pocket-book, and returned.

"We'll get the bearings of your island fast enough presently," said he. "That's a good boat of yours — too good to send adrift. Here, Mr. Swift," he sung out to a man I afterward learnt was his chief mate, "get that boat cleared out, will you, and slung aboard. You can stow her on the booms. And swing the fore-yards as soon as that job's done. Bo'sun, take charge of these two men" — indicating Tripshore and Hunter — "and see that they get something to eat at once. Will you follow me, ladies and gentlemen?"

He led the way into the cabin, or deck-house. We hobbled after him, for, owing to our confinement in the boat and the want of space to stretch our limbs, we had some ado to work our legs properly. The cabin was a very plain interior, with a table amidships, flanked by hair sofas, and a row of five small berths on the port side. We sat down, not because we were weary, but because we found exercise an awkward

and inconvenient effort. The captain, whose name was Broach, went to the cabin door and bawled to the steward, who was among the men on deck, to put some beef and biscuit and claret upon the table. He then entered the berth, and returned with a large chart of the Bahamas and West India Islands, which I saw Sir Mordaunt devouring with his eyes, proving where his heart was.

"Yesterday," said Captain Broach, "we were in such and such a position, and our position now would be here," said he, putting his finger on the chart. "You say you have been running fifty miles to the south'ard and east'ard." He measured the distance, and exclaimed, "Here you are; here are two cays. It is one of these, gentlemen."

"It will be the one to the norrdard," said I.

"Then," said he, writing down the position of the island on a piece of paper, and handing it to the baronet, "this will be the latitude and longitude of it, sir."

I reflected, and then addressing Sir Mordaunt, "Those bearings," said I, "prove that Purchase was heavily out in his latitude *as well as* his longitude."

He motioned, with an imploring gesture. "For God's sake, don't recall the man!" said he. "I desire," he continued, turning to the skipper, "that you will look upon us as passengers, for whose accommodation and entertainment you will charge as you think proper; though," he said, extending his hand for the other to shake, and speaking with great emotion, "no recompense we can make you will express our gratitude for the prompt and generous help you have given us."

"Say nothing about it, sir," answered the skipper, in a blunt, sailorly way. "It seems hard that shipwreck should befall gentlemen like you, to whom the sea is no business; and I am very sorry indeed for the ladies" — giving them a low bow. "Now, steward, bear a hand with the grub, man! Shove it on the table, *can't ye?*"

We had not long before eaten our breakfast in the boat, and even had we not already broken our fast, I question whether the emotions which kept our hearts hammering in our breasts would

have left us any appetite for the victuals on the table. But Captain Broach begged us so heartily to eat, that we made a show of munching, just to please him. He said he had but the cabins we saw. One of them was his, and the next one the mate's, and the third abutting on that the second mate's and carpenter's. "But," said he, "if you don't mind a squeeze, I think we can manage. The ladies will have that cabin—pointing. "There are two bunks in it, and we can lay a mattress on the deck." And then he arranged for me to share the mate's cabin, Norie the second mate's and Sir Mordaunt would have a cabin to himself.

This was a very good arrangement, and so the matter was settled.

We then inquired how long it would take to reach Porto Rico.

"I give the 'Louise' four days," he answered, "reckoning fine weather and breezes after this pattern. When I tell you that we left New Providence the day before yesterday at six o'clock in the evening, you'll believe the barque has got heels."

He sat talking with us, asking questions, and, with every answer we made him, growing more and more respectful. He told Sir Mordaunt that he would find no difficulty in chartering a small vessel to fetch Lady Brooke's body; indeed, he said, it would give him pleasure to see to that himself, for he knew a man at San Juan who owned a trading sloop, a fast vessel, that would not keep Sir Mordaunt waiting. He also told us that steamers from Liverpool, Southampton, Spain, and the United States touched Porto Rico—how often he could not say, but often enough to serve our end.

"And now," said he, "there's Mr. Swift and myself—I'll say nothing about the second mate—plain sailors, with kits not good enough for a man to go to court in; but such as our togs are, gentlemen, you're heartily welcome to the loan of them till you can get better. I'm only sorry," addressing Miss Tuke, "that we can't accommodate you ladies in that way. But we're all men aboard the 'Louise,' and so you'll please take that as our excuse."

He called the steward, to see to our cabins and supply our wants, and, bestowing a regular all-round bow upon

us, he went on deck, where we could hear the men singing out as they braced round the yards and got way upon the barque.

My story is as good as ended. You have had our shipwreck, and now our rescue. But there still remains a short length of line to coil down, and I may as well leave the yarn clean and ship-shape.

Imagine that two days have passed. In that time we have slept well, eaten well, pulled ourselves together. We have all of us knelt down in the cabin, and offered up hearty and earnest thanks to Almighty God for His merciful preservation of us; and now we are looking about us with tranquil hearts, which have already grown used to this new condition of life, waiting with patience for the hour when the cheery cry of "Land oh!" shall bring us within reach of the shores of things our destitute condition demands; now and again talking of the dead; of the yacht that the sea had scattered as the wind scatters chaff; and of our sufferings and anxieties and painful struggles on the little island. The weather remained beautiful—a constant wind blowing, though shifting occasionally to the northward and then hauling back again to the eastward, the sea calm and frosty with the breaking heads of the tiny surges, and a heaven of stainless, glorious, tropical blue.

It was the night of the second day, dating from our rescue. I had been conversing with Mrs. Stretton and Mr. Swift, the chief mate of the "Princess Louise," who, it turned out, had known Captain Stretton and the vessel he commanded. In another part of the deck were Norie and Miss Tuke and her uncle. The moon was standing over the sea, shedding little or no radiance upon the sky, but whitening the water under it with lines of light which looked like silver serpents, as the swaying of the swell and the fluttering of the ripples kept them moving.

I left Mrs. Stretton and the mate, and walked to the end of the short poop. The wheel was just under me, and the figure of the fellow who grasped it was so motionless that he and the wheel and the yellow binnacle-card were

more like a painting than real things. I stood drawing at a cigar, enjoying the tobacco with unspeakable relish after my long enforced abstinence, and contemplating the beautiful dreamlike picture of the barque lifting her heights of glimmering canvas into the dark air, blotting out a whole heaven of stars with her dim and ghostly cloths, amid the hollows of which, and among the delicate gear and rigging, the soft tropical breeze was whispering in notes that sounded like faint and distant voices singing. The eastern sky was glorious with stars, of such magnitude and beauty as you never behold in our northern climes, with a fine sharp whiteness, though here and there the smaller stars shone in delicate blues and in rose-color, like the reflection of a bright flame in highly polished metal. It was a night for solitude. The seething of the thin line of foam at the vessel's sides, the occasional clank of the wheel-chains, the mysterious song of the wind up in the darkness among the pallid sails there, the leagues of black water, the star-laden sky, and the moon clothing with the beauty of her soft, white, misty light a large circumference of the dark heavens, combined to produce a deep sense of peace in the heart, not without melancholy, but infinitely soothing, and to make one almost dread the intrusion of commonplace sound.

My thoughts were full of the past, and let me say of the future likewise. A low, soft, girlish laugh from the group at the other end of the deck had set my fancy rambling, and in the short time I was permitted to stand there musing, the thoughts which swept through my mind—a commingling of shipwreck and ocean perils, and of fancies very much nearer heaven than any the deep could yield me—made a wild and singular panorama of visions.

But my reverie was interrupted by Sir Mordaunt coming up to me. He stood at a little distance, peering, as if he was not sure, and then said, "Is that you, Walton?"

"Yes," I answered.

"What a perfect night, is it not?" he exclaimed. "It makes our shipwreck seem no more than a dream. We might still be on board the poor 'Lady Maud,' and all the anguish we

have suffered and escaped, a nightmare."

"We are lucky," said I, "to have fallen into such kind hands. But I am rather puzzled to know what I shall do when we reach Porto Rico. Is there a consul there?"

"Oh," said he, "I have arranged with Captain Broach to obtain the funds we shall require. Don't let that trouble you."

"And Mrs. Stretton? Shall you send her to Kingston?"

"I will wait till I am ashore, to talk to her. I have a scheme—but I am not yet resolved. She shall find me her friend. She is strangely mixed up in the cruelest experience that ever befell me, and the sufferings she has passed through give her the strongest claims upon my sympathy. By the way," he continued, "I have a piece of news for you. It scarcely took me by surprise. Norie has proposed to Ada, and she has accepted him."

"Indeed!"

"I say I am not surprised, because I knew all along that he admired her. But I did not know that she was in love with him. Did you?"

"No."

"At the beginning of our cruise, don't you remember that she used to snub him?"

I said nothing.

"But," he said, "I am sure he will make her happy. I shall be glad to see her settled. I had hoped to have her as a companion now that I am alone," said he, in a shaky voice; "but a husband is better than an uncle for a girl, and I cannot question, from her manner of speaking to me just now, that she is really attached to the doctor."

I kept my voice very well, and I am sure that he had no suspicion of the truth. Between that girl and me there had been little passages full of encouragement on her part. I held my peace while Sir Mordaunt talked on, coming presently to his wife, and speaking of her with tears in his voice, if not in his eyes.

Then, taking my chance, I crossed over to where Miss Tuke and Norie were standing, looking at the waning moon—a blushing emblem of my own idle dream—and addressing the girl

with as much cordiality as I could infuse into my manner, I said that Sir Mordaunt had told me of her engagement, and that I would not lose a minute in offering her and Norie my sincere congratulations.

"Thank you very much, Mr. Walton," said she; and Norie added that he felt sure the news would give me pleasure.

And so ended a little business that everybody will smile at but I. But I relate it, because I doubt if the story of my shipwreck would be quite complete without it.

I put on a wooden face for the rest of the time, determined that Miss Tuke at all events should not suppose I considered myself jilted. But this matter hastened my departure from San Juan, where we arrived in due course. Sir Mordaunt begged me to stay until his wife's remains had been removed, and then accompany him and the others to Europe; but I told him I was anxious to get home, and an opportunity for leaving Porto Rico occurring three days after our arrival, I took leave of my companions, bidding poor Mrs. Stretton a tender farewell, in the full belief that I should never see her again.

Two months after my return to England, I received a long letter from Sir Mordaunt. He told me that he had brought his wife's remains with him, and that they were now interred in the family vault at —. Also (I should perhaps be surprised to hear), Mrs. Stretton had consented to come and take charge of his establishment, as housekeeper. He asked me to spend a fortnight with him, but I had other engagements, and could not get away.

Not very long after the receipt of this letter, came an invitation to attend Ada Tuke's marriage. I could not go, though I would gladly have been present, if only to sustain the character of indifference I had assumed. However,

I took care to call upon the bride and her husband on their return from abroad when passing through London, and, time being on my side, my impersonation could not have been better had my indifference been honest; and I was sure the bride went away convinced that any suspicions she might have had that I had been fond of her were altogether unfounded. Norie is now in practice in a town in the north of England, and I believe doing very well. Sir Mordaunt gave his niece five thousand pounds and a house of furniture, and I don't doubt they need all they can get, for the little Nories threaten to make a big family.

I often visited Sir Mordaunt, and when I first went down to his house I was pleased to find Tripshore installed there as a sort of all-round man, having no special duties, but lending a hand generally. He told me that Tom Hunter had left San Juan before the others, with a present from Sir Mordaunt of fifty pounds in his pocket, but what had become of him he did not know. Tripshore and the noble dog who had saved our lives were great friends, and always together, I heard. The fine animal knew me at once, and it curiously delighted me to be remembered by him.

On every occasion of my visit to — I had the pleasure of shaking Mrs. Stretton by the hand and complimenting her on her looks. The baronet would tell me that she managed his household capitally, and that if she left him he would miss her as he would his right hand. His references to the late Lady Brookes gradually grew less frequent, while his praise of the shipwrecked widow improved in strength and quality; so that, exactly three years from the date of his arrival in England, I was not surprised to get a letter from him, in which he said that Mrs. Stretton had become Lady Brookes.—*Fraser's Magazine.*

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## FAITH AND UNFAITH.

BY C. KEGAN PAUL.

IN looking back to the beginning of any great schism of thought it is often difficult to understand why so vast importance attached to what now seem trifles;

the parties which opposed each other with the utmost vehemence said much the same thing, "only in slightly different words." The strifes of the school-



men are held to be mere phrases ; it is hard for one who is outside the pale of all churches to see wherein lies the essential variance between the Catholic and the Lutheran doctrine of the Eucharist ; a devout Churchman or Wesleyan of these days does not easily understand the grounds of separation in the last century, or, indeed, the precise point at which the "Methodists" ceased to be a stricter section within the Established Church. The currents of thought are like those of rivers rising in the same watershed ; no reason is evident why they should not take the same direction, only when their later course is considered we see how wide was the ultimate distance involved in their earliest channels.

The wish, on the one hand, to change, and, on the other, to refuse all change of that which has once been defined, is instinctive. There are in the one case the dim stirrings of life, such as take place in the spring long before the feelings are conscious of alteration in climatic conditions, or

Even as the prisoned silver dead and dumb  
Shrinks at cold winter's footfall ere he come ;

in the other the mind is no less sensitive.

Without in any degree underestimating the great controversies in the early centuries of our era, while the rule of faith was forming, or those others when the scholastic philosophy issued from the shock of opposing forces, we may safely assert that from the time that the Church arose to develop the monotheism of Judæa and supplant the religions of heathendom, no such event took place in the Western, or civilized world, as that which on its secular side is called the Renaissance, and on the religious side the Reformation. To the movement the Church could not, and did not, as a whole, object. The new learning, if it were true, could not only not conflict with truth, but would throw many side lights on it. Sciolism and stupidity, the dark shadows which attend the light of knowledge, were alone to be disliked and dreaded. The greatest and holiest minds recognized the need of reform in high places and in low ; in the luxury of popes and the laxity of friars much called for amendment, somewhat for radical change and destruction. Perhaps this could not have come wholly from within. Outside

resistance and criticism are always good for the criticised, if not for the critic, just as now the very fact of living in the light of opposition makes the Catholic Church in England show more fairly, morally and socially, than, let us say, in Madeira. But however this may be, the Renaissance and the Reformation had hardly begun, when the Church instinctively felt that liberty would soon grow into license, and separation would become destruction. Erasmus made merry over pilgrimages, and Ulrich von Hutten over the meagre Latinity of certain monks ; but though they fell out among themselves, and though no one would ever have attempted to justify much of what is told, not untruthfully, in the *Peregrinatio religionis ergo*, or the amazing ignorance of Pfefferkorn in the *Epistola obscurorum virorum*, the Church looked askance on both reformers, and almost as much on him who remained within, as on him who definitely withdrew from, the pale of salvation. Assault on dogma was implicitly involved in opposition to abuses even when the assailants were unable to recognize that they doubted dogma at all. Each party soon called the other anti-christian, but there was a difference in the meaning with which the term was used. The Protestants asserted that the pure teaching of Jesus had been overlaid by a multitude of useless ceremonies, and that, if these were stripped off, the underlying truth would again be manifest, while, as regarded the hierarchy, they thought they recognized the mystical opponent of Jesus of whom the Revelation had spoken. But they could not mean that Christ was nominally or implicitly assailed by a Church which had his image on every altar, claimed to preserve his body in every tabernacle, to consecrate and consume it daily, whose whole ecclesiastical year was founded on the life of Christ, whose very saints, even if, as their enemies said, they had taken his place, were saints only in, and because of, their relation to him. But the Catholics meant far more than this ; that the new spirit of revolt had implicitly in it the denial of Christ, and ultimately of God ; that if the premisses of the reformers were accepted, then logically followed the downfall of all faith in Christ, in God, and in the supernatural, and of

course the utter abandonment of the name and office of a Church. In the material destruction of roods, in the denial of the doctrine of the Mass, this was, they thought, involved, and that which was to their enemies a figure of rhetoric was to them a very bald but terrible truth when they used the word anti-christian.

Yet even then, and in the heat of controversy, it was scarce seen whereunto the difference would grow. The Protestant parties expected to keep to the end large portions of faith and ritual which gradually dropped off them; the Catholics scarce thought that the revolt would be of long duration. And many, while they held the dangerous and unrighteous nature of the new tenets, no doubt hoped that these would not issue in their logical consequences, just as now those who most assert the antinomian character of the utilitarian philosophy are among the most ready to admit that its adherents are moral, law-abiding, and excellent men.

But now that we can regard the controversy with the cumulative experience of three hundred years, we see how wide is the divergence of those opinions which seemed parallel at their first separation; that, while the Church is one and the same, Protestantism is not one; it has divided into a thousand parties, but the tendency in all is to get rid of such dogma as it once possessed, and more and more to denounce the outward semblance and the inward spirit of the organization from which it sprang. The Church of England alone stands as an apparent exception, all the more remarkable because a large portion, perhaps even a numerical majority, among its clergy have in the last fifty years gradually recurred to the outward likeness of many Catholic forms, and reasserted many long-neglected doctrines. But this reaction is far more apparent than real; to render them a reality there must be authority and discipline. It is notorious that the men who carry reaction furthest scoff at discipline, since their bishops, as a rule, will have nothing to do with either their teaching or their practice, nor is there any central authority to decide who goes right in the bewildering maze. The people at large, even those who attend the churches in which ritual is most car-

ried out and dogma most asserted, regard the whole matter in the light of a pleasing imitation, and look on it as provisional, longing for the time when Christendom once more shall be united, by which they mean when they themselves can see their way to joining the Church of Rome. For no one seriously thinks that Rome will yield to them, recognize their orders, and allow married priests to officiate, nor would they make any concession whatever to the sects, who, without very large allowances, for which it is fair to say they do not ask, could play no part in a united Christendom.

But if we take all the other Protestant sects, and the still large portion of the English Church which is not reactionary, we find as a fact that dogma has faded to a very few articles, and that these are always diminishing in number and importance. The creeds are recited in the English Church, but few doctrines are, save in the high churches, dwelt on with any insistence; in the nonconformist churches the creeds are not even recited, and the very notion of a body of all-important doctrines, each one in close interdependence on the others, is rapidly vanishing. While in all, no doubt, the excellence of a moral life is studiously upheld, enforced by scriptural precept and example, supernatural aid is almost disregarded, or at least is vaguely described as the help of the Holy Spirit. How that aid is given and applied is left to each believer. He is to discover in himself the workings of that which is never defined to him; an uncertain form of words of little meaning takes the place of elaborate sacraments which of old fortified the Christian at every turn. Grace has become a sound instead of a reality, whereof the channels were once so visible that the invisible current seemed almost apparent to the senses. In the broad church portion of the Church of England, and in some of the sects outside of it, there is an increasing tendency to approximate to the theology known as Unitarian. Almost all the chapels which belonged to the old Presbyterian Church in England, to those clergy which separated themselves on the enforcement of the Act of Uniformity, have become Unitarian by insensible gradations, and in America the gulf between the sects once known as orthodox

and unorthodox is so little apparent that the interchange of pulpits between their ministers is not unusual.

The Unitarian body is by no means stationary, and among the leaders of thought in that community the teaching grows less and less dogmatic, tending to restrict itself to the simple enunciation of theism, and the need of a life morally correct and intellectually graceful. There are next to no Unitarian poor.

The disintegration of dogma has gone further than persons generally suppose. The adherents of all sects would be startled at the vast number of those who hold no form of religion at all, or who, if they attend worship, do so as an act of compliance, or for a season of rest, and not on any grounds of faith. There is no need to do more than assert that which is to some a commonplace, and which others can easily verify for themselves if the inquiry is not too painful. None who have marked the swift change and abandonment of faith during the last quarter of a century, the tolerance extended to those who but a few years ago would have been ostracized, the acceptance, as commonplaces of criticism, of statements which would not long since have been counted as daring infidelity, can doubt that opinion is still changing with increasing swiftness. All that lies between the Catholic Church and extreme free thought is whirling and surging, but gradually setting into two streams, the one recurrent, the other dashing rapidly to some unknown cataclysm, whose roar is heard by almost all, however smoothly glides their bark.

Those who are called on to take part in the strifes between the churches may for a while shut their eyes to the fact, but few thoughtful men whose attention is drawn to it will refuse to grant that ultimately, later or sooner, the great contest of thought must be fought, not between two varying forms of the Christian faith, nor between the Protestant sects and unbelief, but between that historic church of which the sects are but children, however they may deny their parentage, and the modern spirit, call it by what name we will. It is not fairly to be called the spirit of unbelief or atheism, for it is not dogmatic, and atheism is dogma as much as theism,

but it is a spirit of patient waiting, and content not to know. If pressed, and obliged to define itself, it says frankly that whatever may be guessed or hoped, nothing can be concluded, accurately and positively, of which the senses cannot take cognizance, nothing beyond what is material and physical. Minds penetrated by this spirit have no desire to force the contest prematurely, which, indeed, none can hasten, which will come only, like all that is, when the time is ripe; yet none the less are they content to see the two lines distinctly forming themselves for the great battle of Armageddon, and think it well when one or another who has wavered decides to range himself under either banner. Such an one, though separated by a vast intellectual distance from the Roman position, may yet admire the pomp of that august army which comes on as of old, with banners flying and censers waving, chanting its olden hymns of faith; nor refuse his sympathy, even if it be not entire, to the phalanx to which he intellectually rather belongs, of men who do not much strive nor cry, nor let their voices be heard in the streets, but prepare their way in the lecture-room, the laboratory, and the library; yet who, when need is, their faces set like flints, advance without pomp, but with unshrinking steadiness, to the overthrow of what they hold as superstition.

Such an one may do more than this. He may attempt to clear the ground for others, if it seem to him that he has in any degree succeeded in doing so for himself. For it is a singular fact, in this controversy more than in any other, that the magnitude of the issues involved blinds men to the logical outcome of their own opinions. Many who deem themselves to be in an intermediate position are totally unaware that it is already carried, and that they are bound by all rules of reasoning to take one or the other side. They assail the historic church with unmeasured vituperations, while their own principles, or what they take to be such, implicitly involve the admission of their adversaries' dogmas; the extremest opinions of Rome are to be justified by, and deduced from, the premises they themselves admit. Or, on the other hand, the orthodox will occasionally make liberal concessions

which involve the denial of what they hold most dear, will reject this or that miracle, not on grounds of insufficient evidence, but for rationalistic reasons which may equally apply to those which they accept, and the like.

I am of course aware that a vast number of persons do not think that a strict logical process is needful in matters of faith, who bear, like Canute, their chairs to the edge of the sea of theological change, tuck up their feet on the rail, and shut their eyes, and, because they feel dry, deny the fact that the water has passed them and is around them, believing that they have controlled the flood because it has not actually washed them away. And there are those also who can deliberately shut their minds, and clasp them with a clasp, and, having once determined on a rule of life which then seemed to them sufficient, have never again paid any attention to controversies which do not affect their practical life. Happier they, perchance, than those whom an inner impulse drives ever to weigh, to sift, to accept or reject all that is presented to them, or to which they can reach, yet perchance also not happier, for it may be there is no real evil but stagnation, which is but another name for death.

To aid in clearing my own mind, and, if it may be, to enable others in some degree to do so too, I wish to show that on Christian premises, by which are here understood those accepted by the majority of Christian folk, the very dogmas of Rome which often give most offence, and are considered most extreme, are not only to be justified, but maintained, with even greater ease than those which find less opposition, and to ask whether it be not a logical necessity that whoso denies them should deny much more, or, accepting them, should at least not judge harshly those who go on to beliefs which are implicitly involved in them. Such an inquiry has at least the advantage of dealing with grave and momentous issues, and leaves on one side minor points, on which are often sharp wranglings by which nothing of profit can be decided. If, for instance, the subject-matter of difficulty or discussion be whether the Being who created heaven and earth can be localized in a wafer and consumed by the

faithful; or whether the same Being have given to men who stand in a certain relation to him the power of changing, or seeming to change, the usually unvarying course of nature; if he have endowed fragments of their bodies, or relics of the Passion of Christ, with abnormal virtues of healing and restoration; if from the merits of those who live holy lives there be laid up such an overplus of goodness as avails to cancel the temporal punishment of sinners unconnected with them save by the general bond of a common humanity, how mean and petty become the disputes about vestments, or jurisdiction, or the excellence of an Establishment! If it can be shown that the majority of religious persons assert that which involves much of what they most abhor, the strifes between the churches are as naught; the one church for adhesion is that which carries out accepted premises most fully or the rejection of the conclusion necessitates rejection of all that involves it.

There is perhaps no dogma which has called forth more indignant remonstrance from its opponents than that of the mass, and in this the one point that Christ, whole and entire, God, the Saviour of mankind, is, so to speak, localized in the wafer or bread consecrated by the priest. This doctrine may be stated with refined metaphysical subtlety; it may take the crude yet poetical form in which it appears in the legend of the Holy Grail, when the knights of Arthur's Round Table saw the Fair Child who came "and smote himself into the bread," so that the on-lookers saw the very act of transubstantiation by which the wafer became the Flesh of God. Or, again, it may assume a form ghastly and grotesque, in the tale of those mediæval Jews who, stealing the sacred particle to mock and insult the Christian faith, and lancing it with their knives, saw flow forth from the pierced wafer red streams of sacred blood. Nor can it be said that this mode of stating the doctrine is, even in these days, alien to the feeling of clergy or laity of the Catholic Church, since this very miracle and its consequences have been taken as the subject of a series of modern painted windows in the cathedral of St. Gudule at Brussels. But whether stated in subtler or grosser



terms, the doctrine is one and the same, and it may not inaptly be stated as the localization of the Infinite.

Now we are not concerned to deny or to minimize the enormous difficulties involved, but simply assert that it is not more difficult than the ordinary admissions of ninety-nine out of every hundred believing Christians. We need not enter into Athanasian niceties of the distinction between the nature and offices of the Father and the Son. Enough that the Son is stated to be God, infinite and incomprehensible. But if God be infinitely great, he is also infinitely little; size has nothing to do with the question, and in fact one of the commonplaces about Almighty God is his care for the smallest of his creatures, and the manifestation of his power in the minute finishings of his work. It is brought to our notice by a thousand writers from Job to our own day that he has made the firmament and the blade of grass, the behemoth and the gnat.

Each little flower that opens,  
Each little bird that sings,  
He made their glowing colors,  
He made their tiny wings,

runs the children's hymn; and Pope, the Catholic poet, says precisely what every Christian would admit, that the power of God is "as perfect in a hair as in a heart." But unless a man be prepared to go much further than this he might be only a pantheist, and the charge of teaching pantheistic doctrine has been freely brought against Pope and others who, as Wordsworth, have seen God revealing himself in nature. To assert that he is everywhere would at first seem to be the very contradictory of such a dogma as that under consideration. Yet the mind of man has not felt the doctrines destructive the one of the other. The Bible, to which all appeal, asserts, from its first page to its last, that in some sense and in some modes God, who is everywhere, is present more particularly in certain places. The same notion has descended to, and become emphasized in, modern days. The majority of persons who go to church would certainly give as one of their reasons for doing so, that God is in a special manner there, and that his presence hallows the altar yet more. On what principle do they decline to go a step

further, and to admit that it may have pleased him to place himself, in a still more special mode, and under certain conditions, in the sacrament, in that which Christ gave as the express sign of his abiding with the church? Once let it be granted that he is in any degree and under any conditions localized, the size of the particle is naught, and he who framed the exquisite meshes of the fly's wing, or the microscopic fibres of the lichen, may choose the smallest spot in which to show his greatest and divinest power.

And if any say that the localization of the Deity may be granted, but not the change of the substance of bread into the substance of flesh, with which in this case it is intimately and to many minds inseparably linked, it lies with them, in contradicting this to define what substance is, since he who declares himself a believer in fully admits with those who deny transubstantiation that the outward semblance, species, and accidents of bread and wine remain wholly unchanged.

Or we may take the point of relics, whether of Christ or of the saints. When an eager controversialist laughed at Cardinal Newman because he did not at once refuse credence to the statement that a healing virtue still attaches to an oil said to have flowed from the bones of St. Walburga, his standing as a clergyman would scarce have permitted him categorically to deny the story in the Book of Kings, that a dead man was raised to life so soon as his body touched the bones of Elisha, into whose sepulchre it had been lowered. If the new dispensation be, as all Christians maintain, superior to the old, a saint living under the graces and gifts of the gospel might be expected to have more, not less, inherent virtue than a prophet-dervish of the former faith. If it be claimed for the holy coat at Trèves, for the sacred thorn of Paris, for fragments of the true cross, that miracles are wrought by their agency, objectors have scarce an obvious right still to believe the statement in the Acts of the Apostles that to the sick were borne handkerchiefs and aprons which had touched the body of Paul, that healing might and did result; or that other, how folk too weak to walk were carried into the

streets, that the shadow of Peter passing by might fail upon and invigorate them. The question in each case would be one of evidence, whether the relic were indeed what is asserted, and assuredly for some miraculous fragments the evidence that they are what they profess to be is overwhelming. There is less room for doubt than in the case of many an authentic historical record at which to cavil would be the very wantonness of scepticism. If, then, there be likelihood that any relic associated with Jesus be indeed what is claimed, then from it might still flow the same virtue that healed the sick woman when she touched his garment's hem; for surely it would be the extreme materialism to maintain that a kerchief or a robe had efficacy only while warm from the living bodies of those who wore them. Again, conversely, if miraculous agency be admitted at all, and evidence show that any have been healed by such and such relics, the miracles would go far to prove the authenticity of the relics by placing them in the same category with those sacred garments which once were the channels of healing. If, it may be asked, the bones of Elisha have a sanative or even a life-giving power, why not the bones of St. Walburga; if the hem of Christ's garment, why not the holy coat of Trêves; if the sacred spittle, why not the holy blood in the treasury at Reichenau, or that which was spilt on the sacred thorn? And if one of these relics, or a link said to be of Peter's chain, have done as much as is claimed for Peter's shadow, will not the admitted fact prove, or go far to prove, the asserted fact, at least to the same extent that the typical miracles are proved? I admit the enormous difficulty; it is not my business to obtain credence for either, but to point out that the rejection or admission of one class may involve the admission or rejection of the other.

The doubt may of course be pushed back yet further, to the point of asking whether there be such a thing as miraculous interposition at all. Though it is not easy to frame any satisfactory definition of miracle, that is fairly complete which is usually accepted—an interruption or reversion of the ordinary

laws of nature, whether this take place by the suspension of those laws, or by the interposition of a law that is higher and overrides the lower. Indeed, a God who never wrought miracle would seem to many in the position of a God who had deliberately abdicated his functions, or rather to be no God at all. For such is the imperfection of human intellect that we can only think of the sovereign ruler of all under the figure of an earthly monarch, and it would seem to us that one who set the affairs of his government in motion, to retire to an inner chamber, whence indeed he could see all that happened, but never interfered nor communicated with his subjects, would be but a poor ruler, a *roi fainéant* without even the semblance of an authority he had ceased to wield. We may go further, and assert, without danger of serious contradiction, that whoever has ceased to believe in miracle has lost all true faith in a personal God. He may keep, if he pleases, the name, but "a stream of tendency" or even an undefined "power which makes for righteousness" can but be called God in a sense alien to that which has been put on it and analogous names since human consciousness first woke to the conception of a Being like to but greater than ourselves. Unless he were like us, he could not expect us to be like him, while the thought of one whose goodness is the explanation and model of human virtue is to many that which alone makes moral life possible. And if God be living and personal, and the church a living body sanctioned, even framed by him—premises taken for granted by the enormous majority of professing Christians—it is absurd to suppose that the organs, so to speak, of miracle became atrophied at some date not precisely fixed, and that the Being who once acted through organs and agents, has now ceased to act at all in any true manner. Once more we are not here asserting nor denying a personal God, the ruler of the world, but if there be such he must act, and if he have not retired from governing must show that he governs. The difference between the maker of a machine which continues to ply its appointed task mechanically and even brutally, and the intelligent upholder of a living organism such as the church is usually

assumed to be, is the gift of miracles. And this the Catholic Church claims as her constant birthright, potentially wherever there are relics of her Master and his followers, or traces of their special presence and interest, actually in the daily mystery of the mass, and indeed in all sacramental graces.

Two doctrines, closely connected one with the other, act on many persons as red rags on a bull—purgatory and indulgences. It is difficult to see what harm the first of these can do to any one. We all remember the facetious remark of the Catholic bishop in Ireland to his Protestant rival, who declined to accept the doctrine of purgatory, "Faith, you may go further and fare worse;" and it is a curious fact that the stoutest opponents of the cleansing fire are those who earnestly uphold the doctrine of hell—of course for others and not for themselves. Unless, however, it be maintained that the mere pronouncement of a shibboleth is to free the soul from sin, and make it fit for the joys of heaven, the very conception of a penal involves that of a purgatorial fire. For there are surely those who, as the Scotch proverb has it, are "ower bad for blessing and ower guid for banning," for whom there must needs be a time in which to purge themselves before they rise to the clear vision of eternal day, a place or state in which pardonable offences may be pardoned, and the earthly dross be burned away from the pure gold of the immortal soul. Purgatory is logically involved in the thought of hell and in the thought of heaven; the true alternative to it is not the immediate severance between the sinner and the saint, the transference of the one to eternal torment, the other to eternal delight, but the *ἀνέρονα νήγρετον ὑπνον* of the Greek poet, the sleep that knows no waking. For who is fit for hell or heaven? Even of the evil, a Catholic theologian, who did not mince his words nor take a rose-colored view of the future state, has said that Judas is the only soul of whose damnation we are quite certain, and surely there are many believers at least equally hopeful. On the other hand, it was no Catholic, but one of the strictest of Scotch Protestants, the great Edward Irving, who objected thus vehemently to that shibbo-

leth of the saving power of Christ. In his "Discourse on Judgment to Come" he says:

Now what difference is it whether the active spirit of a man is laid asleep by the comfort of the holy wafer, and extreme unction to be his viaticum and his passport to heaven, or by the constant charm of a few words sounded and sounded, and eternally sounded, about Christ's sufficiency to save? In the holy name of Christ and the three times holy name of God, have they declared aught to men, or are they capable of declaring aught to men, which should not work upon men the desire and the power of holiness? Why then do I hear the constant babbling about simple reliance and simple dependence upon Christ, instead of most scriptural and sound-minded calls to activity and perseverance after every perfection? And oh! they will die mantled in their vain delusion as the Catholic dies, and when the soothing voice of their consolatory teacher is passed into inaudible distance, Conscience will arise with pensive Reflection and pale Fear, her two daughters, to take an account of the progress and exact advancement of their mind.

By all means let those who please deny purgatorial fire and purgatory of any kind, but in consistency the joys of heaven must vanish at the same time, with the dismal hell appointed for those who sin in a different manner to the asserter of it, and for the holders of a different faith. Where in such a case would be the hope and comfort of many a Christian?

Ever since, and even before, Luther nailed his theses on the church door at Wittenberg, the very name of indulgences has been a by-word among men. Catholics themselves have often had to speak of them with bated breath, and in a Protestant country the word is little seen. Every Catholic is quite aware that his doctrine is capable of the most complete defence, or he would not profess to hold it, but he would fully admit that the traffic in indulgences, developed to so large an extent for financial reasons, to supply the money needed for St. Peter's in Rome, and carried to an excess by vulgar monks who turned pedlers with these as their wares, has brought discredit on the doctrine itself, as well as on its abuses. But this, however natural, is unfair. What is really held by the Roman Church is briefly this: for the sake of good deeds, done either by a man himself or by some other person, certain penalties of misdeeds

may be, under conditions, set aside; or to speak technically, an indulgence is a "remission of the punishment still due to sin after sacramental absolution, this remission being valid in the court of conscience and before God, and being made by an application of the treasurer of the church on the part of a lawful superior." As in the social so in the moral code, a transgression may be of the slightest or of the gravest character. We may offend against social law by neglecting to raise our hat to a lady, or by running away with our neighbor's wife. For the one transgression the penalty may be that the lady forgets to ask us to her next evening party, for the graver offence are the law-courts, possibly a heavy money fine and exclusion from all decent society. So, in the same way, an offence against the moral law may vary from an indulged tendency to lie too long in bed, or to be drowsy in church, to the gravest sins of which poor human nature is capable; and the church draws a very intelligible distinction between mortal and venial sin, making also a difference between two kinds of punishment which fall on the offender and the two kinds of forgiveness needed. The one punishment is temporal, and, if we may say so, trivial, the other spiritual and eternal, and it is to the passing punishment, whether in this world or the next, that an indulgence can alone apply.

Now if it be a shocking thing that for the remission of temporal punishment men should be entitled to draw on a store of merits not their own, or on their previous good deeds, the objector, if consistent, must refuse to accept any kind of vicarious merit, and apply his law of stern and unflinching morality to all cases in which aught is done for another's sake, or in remembrance of the past. Some years ago there was an usage at Eton, which seemed to the present writer, when only a boy of thirteen, exactly, though perhaps unintentionally, framed on the lines of ecclesiastical indulgences. The "Remove" was a part of the school in which geography and history were especially studied, and the making of maps was a weekly exercise, to which an importance was attached beyond their real value as a means of teaching. The masters of this

form, and, as far as I remember, of this form alone, were in the habit of giving what were termed "exemptions" for well-executed maps. A small piece of the corner of the map which deserved praise was torn off, signed with the master's initials, and handed to the artist. Perhaps a day or two afterward the same boy was accidentally late for school, and ordered to write out fifty lines of Virgil as a punishment. When the time came for producing the lines, he presented instead his "exemption," which was accepted without a word; his previous merits had gained him an indulgence. I have some impression, though my memory in this serves me but imperfectly, that the transfer of exemptions was at least tacitly allowed, even if not directly sanctioned, but I speak under correction. If it so chanced that a graver fault had been committed than the mere venial offence of being late for school, talking in class, or the like, and that the offender then presented an exemption, not only was it not received in lieu of punishment, but the very pleading the excuse was held to deepen the fault; and here, on a lower ground, was all the distinction between mortal and venial sin. We read in the papers that the same school has lately been granted an extra week of holidays on account of the marriage, that is to say, the "merits," of the Duke of Albany. If there be nothing immoral in giving boys a holiday because some one else is married, or in forgiving a trivial misdeed for the sake of previous good conduct, we fail to see the moral iniquity of remitting temporal punishment of sin on account of the merits of the saints, or of a devotion sedulously performed. And this is all that was ever claimed for indulgences, rightly understood. The acts are, it is true, on altogether different planes, but the principle is the same, and a principle is independent of magnitude, it "shuns the lore of nicely calculated less or more." And if indeed there be no such thing as the application of the merits of one to the needs of another, a far larger fabric than was at first contemplated must crumble under the blast of displeasure, for surely the whole Christian religion stands on no other foundation, and it must be remembered that objections to the intrinsic



morality of the whole "scheme of Revelation," as it is called, have been based on the simple fact of its vicarious character.

To pass to another subject. The elder Quakers, strict Jews, and Moham-medans are consistent in the objections they raise to the use of images, holding as literally binding on all the order to make no representation of any creature. But apart from such stern Puritans, it is hard to see how any possessor of a book of photographs, or who hangs in his room the portraits of relatives who tend him no longer on earth, or the great and wise who have helped to nurture his mind, can reasonably object to such aids to thought and devotion as hang and stand in the churches. If in rude and barbarous countries the symbol is now and then in danger of being mistaken for the thing signified, it may possibly be a question whether the authorities in that place or country would not do well to minimize, as far as in them lay, the devotion paid to such sacred objects. But it is difficult to see on what grounds they should be bound to do even so much as this, unless the whole theory that the divine power is exhibited through material symbols is to break down. So long as any graces and gifts are so given, there can be no reason why to this or that sacred emblem God may not have attached them in a special manner, and just as he is often understood to grant a large portion of his spirit to one marred and uncomely like St. Paul, so it were not unlike his usual dealings that the image or picture specially chosen by him should be not the work of a Michael Angelo or a Fra Angelico, but some rude doll or daubed canvas, into which the simple workman had put more piety than art. So long as in things of everyday life some special human interest may centre in this or that portrait quite apart from the artistic merits, a special sacred interest may be given to some particular portrait of Christ or his saints, and the same power which directs the affections, on the hypothesis that devotion and piety are the gifts of God, may grant in answer to that devotion corresponding benefits. The whole cultus of images seems a part of that sentiment which flows out in all portraiture of those we

love. It is absurd to deny to the deepest affections that which is useful and praiseworthy when applied to the more shallow and fleeting.

The whole claims and powers of the priesthood appear to be involved in the very conception of a church, as a church is involved in that of a living and ruling God. Of all the absurd notions which ever obtained large sway over the human mind, perhaps the most singular is that a Supreme Being, who for ages had spoken to men by direct communication, or by ministers and prophets having a special gift of his own Spirit, who at the last sent his Son with a message, should, when he recalled that Son, have simply put the record of all these transactions in a book and given to none any authoritative power of interpretation. Conceive a codification of the laws of the realm, without judges to declare, interpret, and administer, or a work on medicine which, without training, without study of physiology or anatomy, every one should understand as he pleased; yet an uninterpreted Bible is more incoherent, more monstrous than either of these. It unfolds to the un-instructed eye contradictory statements, and upholds for admiration and pattern states of society and theories of morals wholly alien to our own, and to others approved by itself. But the claim of the Catholic Church, that in all points of faith it has divine guidance, and therefore speaks with authority, is intelligible, and it would seem involved in the very idea of a living, active, yet unseen and unheard ruler, that there should be some interpreter of his will to men. From another point of view the priesthood is the organized and orderly ministry of those powers which belong to the church as a whole. If it should be maintained that the church is another name for collective humanity considered on its religious side, in such a conception may lie the reconciliation of opinions which now are widely separated. Considered in this light, should the priest declare the forgiveness of the penitent, his absolution has in the first place its human side. He expresses the judgment of humanity that the sin is not one which should shut out the penitent from the fellowship or the kindly rela-

tions of men. If men are hard and merciless, unforgiving and unjust, Man is not so; the ultimate judgment is of the best of the race; humanity is the ideal man. And in this aspect—we do not forget that there is another—the absolution of God pronounced by the priest is the ratification of the absolution of man. "Hath no man condemned thee? Neither do I condemn thee; go and sin no more."

We may, it is true, take a wholly different view of the human race and of the world. We may assert that all we see and know is an assembly of men, how placed here we know not, from whom deriving their being we cannot tell, yet probably elaborated by the slow toil of the ages from creatures infinitely below our present state. We may trace their development from the first organic blastules, themselves resultant from chemical changes of which we know nothing in organic matter, till, after ages the very enumeration of which makes the brain reel, "at the last arose the man." Then dismissing all thoughts of their origin, we may see these beings gradually casting off habits which are called evil because they make fellow life and society impossible. We may see them striving ever upward, pressing forward to some absolutely unknown goal, forming to themselves visions of what it may be, bright and beautiful, or dark and hateful, to dismiss them with a sigh, and acquiesce in their ignorance once more. So far as any man dare to speculate on the days to come, he may foresee that this collective humanity of which he forms a part has in the future a grander outlook, grander possibilities, than have ever yet been realized. If the great world spin forever down the ringing grooves of change, and no end comes within the ken of the wildest speculation, he may be content not to know. So also he may be ignorant of the destiny of each separate unit of the great whole, but think it most probable that each having fulfilled his term of years is resolved mentally and bodily into the elements from which he came, leaving his imperishable part, the few good deeds he has done, and the few noble thoughts which have been his, to be used up again, transmuted and

carried forward by those who shall come.

And such are conceptions which satisfy many. But those whom they do not satisfy, those who cling to the words of the old beliefs, "*Credo in unum Deum*," will surely and increasingly find more than they thought enwrapped in the notion of a God, of a church, of a priesthood. A larger number of men will constantly be constrained to admit, at least in some metaphysical and transcendental sense, the very dogmas of the Church Catholic they have most spurned. If, admitting the postulates of Christianity, they admit also the spirit of criticism, they may find themselves denying such fundamental principles as *omne majus continet in se minus*, and that there is no escape of a logical conclusion from given premises. He who begins to deny that a God who is infinitely great is also infinitely little, to scoff at the efficacy of relics, to scruple at the power of multiplication which may exist in portions of the true cross, as under sacred manipulation loaves and fishes multiplied by the lake of Galilee, may find that his criticism leads him far, first to the denial of biblical stories, then to that of the whole supernatural guidance of life and the universe.

And if such be the case, the morality which is now based on the supernatural may fail him, and leave him stranded and wrecked on the rocks of his passions, unless he shall have replaced it by a morality founded on naturalism, not on supernaturalism; on evolution, and not on revelation. This scheme of morals is as yet hardly formulated; it is, perhaps, as yet too early to judge or to prophesy whether it will ever become a rule of life for the ignorant, the sorrowful, and the humble.

No doubt for many years to come there will be those who walk on some middle way, accepting a portion, yet rejecting much of what once was undoubted by all but a bold and eager minority. Men are not yet guided wholly by logic or by reason; their prejudices, their fancies, and their wills are equally to be considered in the calculation of what any may do. Yet the conflict is becoming more apparent, the issue is narrowing, and it has seemed

not out of place that one who feels the enormous importance of the struggle of faith and unfaith, the difficulty of accepting either hypothesis, but mainly

the impossibility of accepting the Catholic solution, should state in a few clear words what seems to him this great dilemma.—*The Nineteenth Century*.

### A MYSTERY OF THE PACIFIC.

FAR away in the South Pacific Ocean, stretching from the coast of Asia for thousands of miles to the east, there extends a vast series of archipelagoes and island groups, partly, without doubt, the remains of a former continent now merged beneath the waves. Here is the far-famed Coral Sea, with its countless islets, and calm lagoons; and here are numberless volcanic islands, rich in luxuriant vegetation, where Nature seems to have been especially prodigal of her gifts, but which are ever the sport of the terrible subterranean forces that act with such fearful potency throughout all this region. Till comparatively recent times, little was known for certain with respect to the islands of the Pacific. Mendana and other pioneers of exploration had, it is true, shed some light on the subject; but the tales of early travellers were mixed up with many wild improbabilities and exaggerations. Dim stories floated about of the savage nature of the South Sea Islanders, and of the exploits of Dampier or of the Spanish buccaneers. Tales, too, of the fabulous wealth to be derived from trading in the Pacific, found ready listeners everywhere; and the public credulity on the subject was too clearly shown in the history of the South Sea Bubble.

Of late years, through the discoveries of gallant explorers, we have learned more of the true facts of the case, and many old illusions have been dispelled. But, as has been so often said, truth is stranger than fiction; and the facts to which we are about to draw attention will yield in their wonderful nature to none of the strange and fantastic tales with which sea-captains were formerly wont to astonish the credulous at home.

In the far East, forming, as it were, the outpost of the South Sea groups, is a solitary volcanic island called Easter Island. It is thirteen hundred miles east of Pitcairn, the next island in the series, and, with the exception of Salas-y-Gomez, a small rock without inhabitants

or vegetation, there is no land between it and South America, which lies more than two thousand miles to the east. Easter Island is only eleven miles by four broad; yet in this small space is crowded perhaps the most wonderful and mysterious collection of remains of a prehistoric people to be found on the earth. At the south-west end are nearly a hundred houses, built of stone, with walls five feet in thickness. The inside of the walls is lined with upright slabs of stone, painted in black, white, and red, with figures of animals and birds, and with other designs. The houses are roofed in with overlapping slabs of stone. In some of the houses, numbers of univalve shells have been found. Near these wonderful ruins, the rocks are carved into fantastic shapes or faces, most of the sculptures being now almost overgrown with bush and underwood. The present inhabitants know nothing whatever of these houses, which, existing as they do in such large numbers, seem to point inevitably to a former race of natives of far higher civilization.

We can understand that a former race may have erected the houses and carved the sculptures mentioned above, wonderful as they are compared with the huts of the existing natives. What follows is, however, more difficult of explanation. On nearly every promontory are erected huge stone platforms, facing the sea, and presenting a front sometimes nearly three hundred feet long and from twenty to thirty feet high. The stones composing these platforms are often six feet long, and are fitted together without cement. The top of the platform is generally about thirty feet broad; and the structures being built on sloping ground, the wall facing the interior of the island is only about a yard high. Another terrace, a hundred feet broad, is levelled landward, and ends also in a wall of stone. On these immense platforms are great pedestals of stone, on which once stood gigantic

statues, which, however, are now all thrown down and partially mutilated, with the exception of those on the platform near the crater of Otouli, which are still erect. Some of these images were thirty-seven feet high; but the average height was about sixteen or seventeen feet, other statues being much smaller. The heads of these sculptured images are flat, and were formerly capped by crowns of red tufa, a stone that is found only at a crater called Terano Hau, near which have been found a number of crowns ready for removal to the statues. The faces are square, and are said to be of a disdainful expression, the lips thin, and the eye-sockets remarkably deep, perhaps to admit of the insertion of eyeballs formed of obsidian, which is also found on the island.

Captain Cook, who during his second voyage visited Easter Island, remarks that the shade of one of these statues was sufficient to shelter all his party—nearly thirty persons. He believed them to be burying-places for certain tribes or families. But whatever may have been the original intention of the sculptors, the present natives can have had nothing to do with the execution of these wonderful monuments. They possess, however, small wooden carved figures, but totally different in features from the stone images. We are forced to the conclusion that the houses, platforms, and statues are all relics of a remote age. The natives have a tradition that they formerly migrated to their present abode from one of the islands of the Low Archipelago; but this throws little light on the subject. How, in any age, could a people furnished only with a stone chisel—for the Polynesians are still in the Stone epoch—have carved such statues by hundreds and built such enormous platforms? And the difficulty is immensely increased by the small size and complete isolation of the island. At present, Easter Island remains the greatest mystery of the Pacific—one of the great mysteries of the world.

The ruins of Ponapé, however, are scarcely more easily explained than those we have been describing. Ponapé is one of the Caroline Islands, and is about fourteen miles long by twelve in width. On the bank of a creek in the Metalanien harbor stands a massive wall

three hundred feet in length and about thirty-five feet high. It is built of basalt, the stones being in some cases twenty-five feet long. On passing through a gateway in this wall, a court, inclosed by walls thirty feet high, is reached. This court is now almost hidden in parts by luxuriant vegetation; but on investigation, a terrace eight feet high and twelve broad is found to run round the inside of the inclosing wall. Low walls running north and south divide the court into three parts, in the centre of each of which is a closed chamber fourteen feet square, roofed over with basaltic columns.

The labor of building these structures must have been enormous, for there are no basaltic rocks within ten miles, with an intervening country thickly wooded and precipitous. Such an exploit is evidently entirely out of the power of the present savage inhabitants. The theory that the buildings were the work of Spanish buccaneers is also untenable. No adequate explanation has yet been offered; but, as in the case of Easter Island, we seem driven to the hypothesis of an ancient civilization extending over some parts at least of the Pacific. Admitting this, we might suppose that Easter Island was chosen, possibly expressly on account of its isolation, as the sanctuary of the religion of some confederacy or group of tribes, who might by their joint labors have produced the mighty structures which now baffle the archæologist. On the same supposition, the buildings at Ponapé might be considered to have been the temple of the gods of some powerful nation. But all this is mere conjecture. If there ever was such a civilization, which way did it spread? Was it from the West or from the East? And in either case, how can we account for its spontaneous growth in such an isolated region and under conditions so unfavorable? These are questions which we cannot hope to answer; probably they will always remain unanswered. The past history of the South Seas is veiled in deep obscurity. Could we but gain an insight into the remote past of this quarter of the globe, perhaps a picture would be revealed, by the side of which the tales of Montezuma and the Incas of Peru would sink into insignificance.—*Chambers's Journal.*



## "DAME AUTUMN HATH A MOURNFUL FACE."

SUMMER is dead : too soon her radiant shape  
Beneath a humid pall of leaves is laid ;  
Too soon is fled the swallow, to escape  
The biting wind, and winter's cruel shade.

Summer is dead : the weeping forest tree  
Repeats the cry amid its falling leaves ;  
Past is the cheerful hum of laden bee,  
Vanished the mellow glory of the sheaves.

Now do grim shadows usher in the night,  
That follows fast upon the shortened day ;  
More boldly doth the night-bird wing her flight,  
And croak defiance to the moon's wan ray.

Now doth the peasant, hastening sadly home,  
Trembling, recall come half-forgotten tale ;  
How in the chill of evening, elf and gnome  
Sporting, hold revel high on hill and dale.

Up from the deep moist bosom of the earth,  
Autumn arising shakes her dewy hair,  
And leaves the sedgy marshes of her birth  
To soar aloft ; a creature wondrous fair !

But pale and sad : one slender hand upholds  
Above her head a veil's translucent sheen,  
That falling, wraps within its silv'ry folds  
Her limbs, whose charm thus hidden, yet is seen

A weird light flickers faintly round her head,  
And sparkles on the tinted gossamer  
Of delicate wings, that to the breeze outspread  
Support her flight, yet scarcely seem to stir.

Yet tears are in her eyes, ah ! mournful tears ;  
A shadow dims her pale brow as of pain ;  
Telling of faded hopes in vanished years,  
Of mirth and joys that may not come again.

So have I heard her from her couch arise,  
When night is full of murmurs, and the sound  
Of the chill air that rustles as she flies,  
And the dead twigs that crackle to the ground.

And thus she floateth, brushing from the bough  
The russet leaves that sadly linger there ;  
And wreathes them into chaplets for her brow,  
Or plucks the drooping flowerets for her hair.

And while the pattering rain-drops on the grass,  
Fall with a ceaseless monotone, the night  
Enwraps her, and the stars behold her pass  
Through the bleak darkness in her silent flight.

## GEORGE ELIOT'S CHILDREN.

BY ANNIE MATHESON.

"In old days there were angels who came and took men by the hand and led them away from the City of Destruction. We see no white-winged angels now. But yet men are led away from threatening destruction: a hand is put into theirs which leads them forth gently toward a calm and bright land, so that they look no more backward; and the hand may be a little child's."

So spake a great novelist, whose sayings are often more bitter and more epigrammatic, but seldom perhaps more true. And this is to be valued not as a mere chance utterance, but as the central idea of the beautiful prose idyl in which it occurs, and to which George Eliot has given the name, not of the bright-haired saving messenger, but of the old weaver whom she rescues, "Silas Marner."

In George Eliot's other writings it might be easy to find more passion, more subtlety, more so-called spiritual fervor; a more obvious humor and a wider and more varied range of dramatic power; but perhaps there is not one of them which is so classic in its unity, simplicity, and self-involved completeness as "Silas Marner." It is, to steal a phrase, "a pure chrysolite."

Here is a story which thrills us not so much with the love of lovers as with that eternal love which finds expression in the caresses of little dimpled hands, the kisses of baby lips, quite as truly as in the discipline of that vicarious joy and sorrow which go to make the loves and friendships of men and women. It is as if the little child who stood in the midst of it had inspired its writer with such a white heat of creative genius that the simple materials embraced within its flame had been crystallized into consummate and unlabored beauty.

Possibly time alone will determine the moral value of George Eliot's teaching; and time itself, by introducing new and complex conditions, will make its own verdict of difficult and doubtful interpretation. There are those who maintain that the subtle analysis of motive, and still more the minute diagnosis of passion, must of necessity be unhealthy reading. There are those on the other hand who assert that George Eliot is a great moral teacher, and that though she does not, like a great living poet, expressly formulate her intention of

teaching the world the existence of "original sin," there are other doctrines of at least equal importance which George Eliot brands into the very souls of those who come under her influence. "Is there any other writer of our day," they say, "who has so effectually taught us that 'the wages of sin is death'—moral death, and that the value of life lies not in sordid happiness, but in loving sacrifice; to say nothing of that much-needed conviction that 'good carpentry is God's will,' and that 'scamped work of any sort is a moral abomination'?"

But whatever view be taken of George Eliot's ethics, he must be a daring man who will deny that she is possessed of genius; and she has that rare gift of genius, a creative and sympathetic imagination in regard to children. George Eliot's children are not the mere creatures of her fancy. They are not impossible cherubs, or wingless fairies, or idealized precocities. When we are told that "'the little uns'\* addressed were Marty and Tommy, boys of nine and seven, in little fustian tailed coats and knee-breeches, relieved by rosy cheeks and black eyes; looking as much like their father as a very small elephant is like a very large one," and are in the following sentences assured, concerning their baby sister, that "Totty,† having speedily recovered from her threatened fever, had insisted on going to church to-day, and especially on wearing her red and black neck-lace outside her tippet," we have an instinctive feeling that Tommy and Marty and Totty are made of real flesh and blood, and that though we may not nowadays meet little tail-coats and knee-breeches every Sunday, yet we have most of us seen chubby-faced boys and innocent self-important Totties on their

\* "Adam Bede," p. 160.

† "Adam Bede."

way to church any number of "Sabbath-day mornings."

And then there is that delightful small man, Job Tudge, of whom more anon; and the energetic young Benjamin Garth, who sang the refrain to his brother Alfred's declaration that Mary was "an old brick, old brick, old brick!" Those who are in all the secrets of Mr. Gilfil's love story will perhaps remember

"Tommy Bond, who had recently quitted frocks and trousers for the severe simplicity of a tight suit of corduroys, relieved by numerous brass buttons. Tommy was a saucy boy, impervious to all impressions of reverence, and excessively addicted to humming-tops and marbles, with which recreative resources he was in the habit of immoderately distending the pockets of his corduroys. One day, spinning his top on the garden-walk, and seeing the Vicar advance directly toward it, at that exciting moment when it was beginning to 'sleep' magnificently, he shouted out with all the force of his lungs—'Stop! don't knock my top down, now!' From that day 'little Corduroys' had been an especial favorite with Mr. Gilfil, who delighted to provoke his ready scorn and wonder by putting questions which gave Tommy the meanest opinion of his intellect."

"Well, little Corduroys, have they milked the geese to-day?"

"Milked the geese! why, they don't milk the geese, you silly!"

"No? dear heart? why, how do the goslings live, then?"

"The nutriment of goslings rather transcending Tommy's observations in natural history, he feigned to understand this question in an exclamatory rather than an interrogatory sense, and became absorbed in winding up his top."

"Ah, I see you don't know how the goslings live! But did you notice how it rained sugar-plums yesterday?" (Here Tommy became attentive.) "Why, they fell into my pocket as I rode along. You look into my pocket and see if they didn't."

"Tommy, without waiting to discuss the alleged antecedent, lost no time in ascertaining the presence of the agreeable consequent, for he had a well-founded belief in the advantages of diving into the Vicar's pocket. Mr. Gilfil called it his wonderful pocket, because, as he delighted to tell the 'young shavers' and 'two shoes'—so he called all little boys and girls—whenever he put pennies into it they turned into sugar-plums or ginger-bread, or some other nice thing. Indeed, little Bessie Parrot, a flaxen-headed 'two shoes,' very white and fat as to her neck, always had the admirable directness and sincerity to salute him with the question—'What zoo dot in zoo pottet?'"

George Eliot was doubtless aware how much more tenderly we should think of the pipe-smoking old parson after we had caught this glimpse of him among the children of his flock. Here, as in real life, is a touchstone of character.

And how wonderfully, in a few rapid strokes, we have the vivid individuality of the two children before us.

As for the immortal Tom and Maggie, I am persuaded that they are secretly delighted in by the very critics who decry them; and among those who find fault with the portraiture of their after life there are surely few indeed who would not admit that in describing their childish days George Eliot's drawing is nearly faultless.

But the master hand which, in "The Mill on the Floss," and elsewhere, pictured for us a "brother and sister" who had

"the self-same world enlarged for each

By loving difference of girl and boy,"

has given us other and less noticed sketches of those more ordinary little mortals, who, not possessing Maggie's passion or Tom's indomitable will, are yet as lovable as they are commonplace, and grow as thick as daisies in the common paths of life.

There are Milly Barton's children, for instance. Milly's farewell to them is too sacred in its simple pathos to be rudely snatched from its context and held up for admiration here, but it is tragic in its realistic truth. The passive courage and self-restraint of the pale little Patty, the sympathetic tears of the younger children, who cried "because mamma was ill and papa looked so unhappy,"\* but thought that "perhaps next week things would be as they used to be again;" and the misery of the infantine Dicky, who had so lately stroked his mother's hand as "too yovely," and who, knowing nothing of the irrevocableness of death, was yet suddenly pierced with the idea that his mother "was going away somewhere"—all are untainted by the faintest touch of melodrama or maudlin exaggeration. Therefore they touch us to the quick.

And at the opposite pole of experience we find the red cheeked Jacob and Addie, the pride and joy of the Israel-

\* "Scenes of Clerical Life," p. 75.

\* "Scenes of Clerical Life," p. 63.

ish pawnbroker. They are drawn with merciless accuracy; yet, despite a certain coarseness and vulgarity in their moral fibre (in startling contrast with the refined and sensitive nobleness of another Jewish child in the same story), they are so alive with all the self-importance and exuberant energy appropriate to their age and surroundings, that we love them for their very absurdities, and are refreshed by the unconscious humor which is so large an element in all young animal existence, and which Kingsley delighted to regard as an evidence of some responsive faculty in the Creative Mind. That man must indeed be dead to this exquisite pleasure who can read without mirth the mingled pathos and fun of that passage in "Daniel Deronda," in which the Jewish seer, trying with unselfish enthusiasm to teach Jacob his religion of the future, is surprised to see that small but imitative Israelite suddenly vary the performance by standing on his head and licking up a bit of money. It is irresistible; though in the midst of our laughter our sympathies are somewhat painfully divided between the broken-hearted grief and indignation of the dying man, noble in his touching innocence and childlike unworldliness, and the minor woes of the earthly-minded, but very human little boy, who is finally overcome with tears in the presence of the awful warnings and denunciations which follow, naturally failing altogether to perceive why his humble mimicry of acrobatic street performances should be greeted with such a torrent of eloquence against the greed for filthy lucre.

There is a parallel passage in "Felix Holt,"\* in which Felix bids little Job put out his tongue, and frightens him into sudden weeping by a passionate dissertation on the possible future sins of that unruly member. But in laughter-provoking freshness this fails altogether in comparison with Jacob's behavior, though it is forever memorable as following on that lovely little incident in which Job precipitates Esther's fate by inquiring, when he sees the tears in her eyes, whether she has "tut her finger."

Then, too, there is Mr. Jerome's grandchild.

"'It is a pretty surprise,' says George Eliot, 'when one visits an elderly couple, to see a little figure enter in a white frock with a blond head as smooth as satin, round blue eyes, and a cheek like an apple blossom. A toddling little girl is a centre of common feeling which makes the most dissimilar people understand each other; and Mr. Tryan looked at Lizzie with that quiet pleasure which is always genuine.

"'Here we are, here we are!' said proud grandpapa.

"'You didn't think we'd got such a little gell as this, did you, Mr. Tryan? Why, it seems but th' other day since her mother was just such another. This is our little Lizzie, this is. Come an' shake hands with Mr. Tryan, Lizzie; come.'

"Lizzie advanced without hesitation, and put out one hand, while she fingered her coral necklace with the other, and looked up into Mr. Tryan's face with a reconnoitring gaze. He stroked the satin head, and said in his gentlest voice, 'How do you do, Lizzie; will you give me a kiss?' She put up her little bud of a mouth, and then retreating a little and glancing down at her frock, said—

"'Dit id my noo fock. I put it on 'tod you wad toming. Tally taid you wouldn't 'ook at it.'

"'Hush, hush, Lizzie, little gells must be seen and not heard,' said Mrs. Jerome; while grandpapa, winking significantly, and looking radiant with delight at Lizzie's extraordinary promise of cleverness, set her upon her high cane chair by the side of grandma, who lost no time in shielding the beauties of the new frock with a napkin."\*

For such little wayside flowers George Eliot always finds a place in the dusty highways of life. But it is not to be wondered at that many readers pass them by unheeded. Even forget-me-nots are not always remembered; and George Eliot's children are never thrust upon our notice as angels or prigs would be. We are not asked to admire the superhuman beauty of their plumage, or the superhuman wisdom of their utterances. They are real children, and

"not too bright or good  
For human nature's daily food."

Nor are we, in their case, too often invited to investigate "the very pulse of the machine."

They are usually kept well in the background, as modest and well-behaved children should be, and still more such frank and "pushing" specimens of humanity as the precocious Jacob Cohen.

George Eliot does not generally give them a conspicuous place in her stories,

\* "Felix Holt," p. 205.

\* "Scenes of Clerical Life," p. 236.



though "The Mill on the Floss" and "Silas Marner" might, at the first glance, seem to contradict this statement. She does not label them, "This is a remarkable and deeply interesting little girl," or, "This is an unusual and exceedingly original little boy." She does not hold them up to notice and say by implication, "Look at my marvellous creative power—I have imagined and described an altogether exceptional child!" She has far too much of the real instinct of an artist. She does not insist on the beauty of what is accidental, still less of what is abnormal. Her children are just such as we might ourselves meet any day. And, perhaps, in many instances we pass them by in the novels with almost as brief a glance as we should give them in the street. They are there, but they never weary us. They must be looked for and remembered if they are to be loved.

It has been a large part of George Eliot's mission, perhaps, to teach the poetry of the commonplace, and to prove to an unbelieving world that the Ideal and the Real are one; that a disembodied ghost is no whit more wonderful, rather, perhaps, less so, than the ghost embodied in the shape of an unhappy Bulstrode, or even a Mrs. Vincy with pink cap-ribbons. And where shall we find more mystery in the lot of imprisoned spirits than in the lives of these little pilgrims from the unseen, for whom the veil is often still a little lifted.

Doubtless, George Eliot's loving and vivid remembrance of her own early years is, in large measure, the secret of her genius in this direction. She has herself said, "We could never have loved the earth so well if we had had no children in it."<sup>\*</sup> But many would echo that, and honestly feel its truth, who are nevertheless altogether deficient in that kind of imaginative sympathy and illuminating memory which seem to have enabled this great novelist to enter into the hidden experiences of child nature. There is a whole mine of wisdom in what she writes concerning Maggie's impetuous and remorseful grief anent her shorn locks.

"Ah, my child, you will have real troubles to fret about by and by," is the consolation we

have almost all of us had administered to us in our childhood, and have repeated to other children since we have been grown up. We have all of us sobbed so piteously, standing with tiny bare legs above our little socks, when we lost sight of our mother or nurse in some strange place; but we can no longer recall the poignancy of that moment and weep over it, as we do over the remembered sufferings of five or ten years ago. Every one of those keen moments has left its trace, and lives in us still, but such traces have blent themselves irrecoverably with the firmer texture of our youth and manhood; and so it comes that we can look on at the troubles of our children with a smiling disbelief in the reality of their pain. Is there any one who can recover the experience of his childhood, not merely with a memory of what he did and what happened to him, of what he liked and disliked when he was in frock and trousers, but with an intimate penetration, a revived consciousness of what he felt then—when it was so long from one midsummer to another? What he felt when his schoolfellows shut him out from their game because he would pitch the ball wrong out of mere wilfulness; or on a rainy day in the holidays, when he didn't know how to amuse himself, and fell from idleness into mischief, from mischief into defiance, and from defiance into sulkiness; or when his mother absolutely refused to let him have a 'tailed' coat that 'half,' although every other boy of his age had gone into tails already? Surely if we could recall that early bitterness, and the dim guesses, the strangely prospective conception of life that gave the bitterness its intensity, we should not pooh-pooh the griefs of our children."<sup>\*</sup>

This follows immediately on the description of Maggie's discomfiture under Tom's contempt and ridicule.

"He hurried down stairs and left poor Maggie to that bitter sense of the irrevocable which was almost an everyday experience of her small soul. She could see clearly enough, now the thing was done, that it was very foolish, and that she should have to hear and think more about her hair than ever; for Maggie rushed to her deeds with passionate impulse, and then saw not only their consequences, but what would have happened if they had not been done, with all the detail and exaggerated circumstance of an active imagination. Tom never did the same sort of foolish things as Maggie, having a wonderful instinctive discernment of what would turn to his advantage or disadvantage; and so it happened, that though he was much more wilful and inflexible than Maggie, his mother hardly ever called him naughty. But if Tom did make a mistake of that sort, he espoused it and stood by it; he 'didn't mind.' If he broke the lash of his father's gig whip by lashing the gate, he couldn't help it—the whip shouldn't have got caught in the hinge. If Tom Tulliver whipped a gate, he was con-

\* "Mill on the Floss," p. 33.

\* "Mill on the Floss," p. 56.

vinced, not that the whipping of gates by all boys was a justifiable act, but that he, Tom Tulliver, was justifiable in whipping that particular gate, and he wasn't going to be sorry. But Maggie, as she stood crying before the glass, felt it impossible that she should go down to dinner and endure the severe eyes and severe words of her aunts, while Tom, and Lucy, and Martha, who waited at table, and perhaps her father and her uncles would laugh at her—for if Tom had laughed at her, of course every one else would. . . . Very trivial, perhaps, this anguish seems to weather-worn mortals who have to think of Christmas bills, dead loves, and broken friendships; but it was not less bitter to Maggie—perhaps it was even more bitter—than what we are fond of calling antithetically the real troubles of mature life."

There is here the same vibrating throb of pained memory as in that earlier passage in the same story, in which George Eliot says, doubtless with a bitter intensity of meaning:

"We learn to restrain ourselves as we get older. We keep apart when we have quarrelled, express ourselves in well-bred phrases, and in this way preserve a dignified alienation, showing much firmness on one side, and swallowing much grief on the other." \*

But as we look at the bright or sad faces of Tom and Maggie, Eppie and Aaron, the boy Daniel and the little Pablo, of Totty and Marty, and Job and Patty, and Dorcas's children, and the rest, we feel that there are other elements beside a burning recollection in the power which calls them into being. The great artist, who never had a child of her own, seems to have thrilled with tenderness for all inarticulate and half articulate forms of being. Children, like the birds and the beasts, have often an overflowing abundance of language, but it is language which is wholly inadequate to express the blind longings and aspirations, the wounded ambitions, the moral perplexities, the hungry craving for boundless love, with which many a sensitive child is burdened. In this deepest sense childhood is always more or less dumb, even when most noisy and talkative. He who would understand a child must not only listen for his words, which indeed are often somewhat futile, but must learn to read the unwritten speech of eyes and hands and feet, and watch with observant sympathy not only the tears and

smiles, but the gay caresses and appealing gestures and quick blushes, which it is possible to ignore or to misinterpret. George Eliot evidently delights in them, and has described them with the same delicate touch as the movements of the little flying things for whom she spares a line or two in the "Spanish Gipsy":—

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No one who has watched such birds with observant affection can miss the delicate truth of the description.

And there is the same light but veracious touch in her delineation of the bird-like movements of young human creatures—whether they have, like little Aaron Winthrop, "got a voice like a bird," or only, like little Job Tudge, the gentle timorousness of those harmless feathered things. What could be more perfect than this:

"Dolly sighed gently as she held out the cakes to Silas, who thanked her kindly, and looked very close at them, absently, being accustomed to look so at everything he took into his hand—eyed all the while by the wondering bright orbs of the small Aaron, who had made an outwork of his mother's chair, and was peeping round from behind it.

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"Aaron retreated completely behind his outwork.

"Oh go, that's naughty," said his mother, mildly. 'Well, whatever the letters are, they've a good meaning; and it's a stamp as has been in our house, Ben says, ever since he was a little un, and his mother used to put it on the cakes, and I've allays put it on too; for if there's any good, we've need of it i' this world.'

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The good Dolly then proceeds to give Marner a little theological advice:

"But now, little Aaron, having become used to the weaver's awful presence, had advanced to his mother's side, and Silas, seeming to notice him for the first time, tried to return Dolly's signs of good will by offering the lad a bit of lard-cake. Aaron shrank back a little,

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"God rest you, merry, gentlemen,  
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What little brown-plumaged bird was ever more daintily described than this brown-headed, cherubic creature, with the clear chirp and the shy, noiseless movements, at once self-satisfied and coy?

The child heroine, Caterina, is throughout compared to "a little unobtrusive singing-bird, nestling so fondly under the wings that were outstretched for her, her heart beating only to the peaceful rhythm of love, or fluttering with some easily stifled fear," until it "had begun to know the fierce palpitations of triumph and hatred." But the intense and skeptical melancholy of that passage in which we are asked, "what were our little Tina and her trouble in this mighty torrent, rushing from one

awful unknown to another? Lighter than the smallest centre of quivering life in the water-drop, hidden and uncared for as the pulse of anguish in the breast of the tiniest bird that has fluttered down to its nest with the long-sought food, and has found the nest torn and empty," is belied by the main current of the tragedy. Rather, does not every event in the sad and beautiful story impress us more and more deeply with what would seem in those days to have been the writer's own conviction, that there is One who "watches over His children and will not let them do what they would pray with their whole hearts not to do."\* Mr. Gilfil at last believed that "they had been carried through all that dark and weary way that" Caterina "might know the depth of his love. How he would cherish her—his little bird with the timid bright eye, and the sweet throat which trembled with love and music! She would nestle against him, and the poor little breast which had been so ruffled and bruised should be safe for evermore."† He tells her, "You have seen the little birds when they are very young and just begin to fly, how all their feathers are ruffled when they are frightened or angry; they have no power over themselves left, and might fall into a pit from mere fright. You were like one of those little birds."‡ This brave, blunt parson, who, neither to his dear love in the days of his courtship, nor to Dame Fripp§ in the days of his pipe-smoking, gray-haired bachelorhood, is at all given to "improving the occasion" or quoting texts, does no go on to say in so many words that not a sparrow can fall to the ground "without our Father;" but is not that the meaning of the whole story?

And if in later years George Eliot makes Mrs. Transome say that "God was cruel when he made women," she never lets us forget that what Mrs. Transome called "cruelty" was for her a just retribution, perhaps also a cleansing hell. In this soft and effeminate age, who shall say that we did not need the lesson!

But the mention of Mrs. Transome

\* "Scenes of Clerical Life," p. 173.

† Ibid, p. 169. ‡ Ibid, p. 173.

§ Ibid, p. 72.

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What little brown-plumaged bird was ever more daintily described than this brown-headed, cherubic creature, with the clear chirp and the shy, noiseless movements, at once self-satisfied and coy?

The child heroine, Caterina, is throughout compared to "a little unobtrusive singing-bird, nestling so fondly under the wings that were outstretched for her, her heart beating only to the peaceful rhythm of love, or fluttering with some easily stifled fear," until it "had begun to know the fierce palpitations of triumph and hatred." But the intense and skeptical melancholy of that passage in which we are asked, "what were our little Tina and her trouble in this mighty torrent, rushing from one

awful unknown to another? Lighter than the smallest centre of quivering life in the water-drop, hidden and uncared for as the pulse of anguish in the breast of the tiniest bird that has fluttered down to its nest with the long-sought food, and has found the nest torn and empty," is belied by the main current of the tragedy. Rather, does not every event in the sad and beautiful story impress us more and more deeply with what would seem in those days to have been the writer's own conviction, that there is One who "watches over His children and will not let them do what they would pray with their whole hearts not to do."\* Mr. Gilfil at last believed that "they had been carried through all that dark and weary way that" Caterina "might know the depth of his love. How he would cherish her—his little bird with the timid bright eye, and the sweet throat which trembled with love and music! She would nestle against him, and the poor little breast which had been so ruffled and bruised should be safe for evermore."† He tells her, "You have seen the little birds when they are very young and just begin to fly, how all their feathers are ruffled when they are frightened or angry; they have no power over themselves left, and might fall into a pit from mere fright. You were like one of those little birds."‡ This brave, blunt parson, who, neither to his dear love in the days of his courtship, nor to Dame Friggs in the days of his pipe-smoking, gray-haired bachelorhood, is at all given to "improving the occasion" or quoting texts, does no go on to say in so many words that not a sparrow can fall to the ground "without our Father;" but is not that the meaning of the whole story?

And if in later years George Eliot makes Mrs. Transome say that "God was cruel when he made women," she never lets us forget that what Mrs. Transome called "cruelty" was for her a just retribution, perhaps also a cleansing hell. In this soft and effeminate age, who shall say that we did not need the lesson!

But the mention of Mrs. Transome

\* "Scenes of Clerical Life," p. 173.

† Ibid, p. 169.

‡ Ibid, p. 173.

§ Ibid, p. 72.

must take us back to the children ; and the interview between her little grandson and Job Tudge cannot be omitted :

"By this time young Harry, struck even more than the dogs by the appearance of Job Tudge, had come round dragging his chariot, and placed himself close to the pale child, whom he exceeded in height and breadth, as well as in depth of coloring. He looked into Job's eyes, peeped round at the tail of his jacket and pulled it a little, and then, taking off the tiny cloth cap, observed with much interest the tight red curls which had been hidden underneath it. Job looked at his inspector with the round blue eyes of astonishment, until Harry, purely by way of experiment, took a bon-bon from a fantastic wallet which hung over his shoulder, and applied the test to Job's lips. The result was satisfactory to both. Every one had been watching this small comedy, and when Job crunched the bon-bon, while Harry looked down at him inquiringly and patted his back, there was general laughter except on the part of Mrs. Holt, who was shaking her head slowly, and slapping the back of her left hand with the painful patience of a tragedian whose part is in abeyance to an ill-timed introduction of the humorous."<sup>\*</sup>

If Eppie stands next to Tom and Maggie in importance among George Eliot's children, surely this quaint little Job is not far off. If he is not, like Eppie, the child-angel sent to lead back a lost soul into the light, or, like Maggie and Caterina, destined to become the passionate heroine of a tragedy, at least his small forefinger touches with magic efficacy the tangled threads of another love-story :

"Job was a small fellow about five, with a germinal nose, large round blue eyes, and red hair that curled close to his head like the wool on the back of an infantine lamb. He had evidently been crying, and the corners of his mouth were still dolorous. Felix held him on his knee as he bound and tied up very cleverly a tiny forefinger. There was a table in front of Felix against the window, covered with his watch-making implements and some open books. . . .

"This is a hero, Miss Lyon. This is Job Tudge, a bold Briton whose finger hurts him, but who doesn't mean to cry. . . .

"Esther seated herself on the end of the bench near Felix, much relieved that Job was the immediate object of attention. . . .

"Did you ever see," said Mrs. Holt, standing to look on, "how wonderful Felix is at that small work with his large fingers ? And that's because he learnt doctoring. It isn't for want of cleverness he looks like a poor man, Miss Lyon. I've left off speaking, else I should say it's a sin and a shame."

"Mother," said Felix, who often amused

himself and kept good-humored by giving his mother answers that were unintelligible to her, "you have an astonishing readiness in the Ciceronian antiphrasis, considering you have never studied oratory. There, Job—thou patient man—sit still if thou wilt ; and now we can look at Miss Lyon."

"Esther had taken off her watch, and was holding it in her hand. But he looked at her face, or rather at her eyes, as he said, 'You want me to doctor your watch?'

"Esther's expression was appealing and timid, as it had never been before in Felix's presence ; but when she saw the perfect calmness, which to her seemed coldness, of his clear gray eyes, as if he saw no reason for attaching any emphasis to this first meeting, a pang swift as an electric shock darted through her. She had been very foolish to think so much of it. It seemed to her as if her inferiority to Felix made a great gulf between them. She could not at once rally her pride and self-command, but let her glance fall on her watch, and said, rather tremulously, 'It loses. It is very troublesome ; it has been losing a long while.'

"Felix took the watch from her hand ; then, looking round and seeing that his mother was gone out of the room, he said, very gently, 'You look distressed, Miss Lyon ; I hope there is no trouble at home' (Felix was thinking of the minister's agitation on the previous Sunday). 'But I ought perhaps to beg your pardon for saying so much.'

"Poor Esther was quite helpless. The mortification, which had come like a bruise to all the sensibilities that had been in keen activity, insisted on some relief. Her eyes filled instantly, and a great tear rolled down while she said in a loud sort of whisper, as involuntary as her tears,

"I wanted to tell you that I was not offended—that I am not ungenerous—I thought you might think—but you have not thought of it."

"Was there ever more awkward speaking ?—or any behavior less like that of the graceful, self-possessed Miss Lyon, whose phrases were usually so well turned, and whose repartees were so ready ? For a moment there was silence. Esther had her two little delicately-gloved hands clasped on the table. The next moment she felt one hand of Felix covering them both, and pressing them firmly ; but he did not speak. The tears were both on her cheeks now, and she could look up at him. His eyes had an expression of sadness in them, quite new to her. Suddenly little Job, who had his mental exercises on the occasion, called out, impatiently,

"She's tut her finger !"

"Felix and Esther laughed, and drew their hands away ; and as Esther took her handkerchief to wipe the tears from her cheeks, she said,

"You see, Job, I am a naughty coward, I can't help crying when I have hurt myself."

"Zoo soodn't kuy," said Job, energetically, being much impressed with a moral doctrine which had come to him after a sufficient transgression of it.

"Job is like me," said Felix, 'fonder of preaching than of practice.'"

\* "Felix Holt," p. 201.

Job's foster-mother, Mrs. Holt, is certainly a wonderful creature. Mrs. Poyser has been more talked about, but even Mrs. Poyser's shrewd witticisms are scarcely so exquisitely humorous as Mrs. Holts's loquacious and egotistic stupidities. Except perhaps Mrs. Tulliver's interview with Mr. Wakem, it would be difficult to find anything at once so credible and so absurd as that long conversation with Mr. Lyon, in the course of which Mistress Holt assures him that:

"When everybody gets their due, and people's doings are spoke of on the house-tops, as the Bible says they will be, it'll be known what I've gone through with those medicines—the pounding, and the pouring, and the letting stand, and the weighing—up early and down late; there's nobody knows yet but One that's worthy to know; and the pasting o' the printed labels right side upward. There's few women would have gone through with it; and it's reasonable to think it'll be made up to me; for if there's promised and purchased blessings, I should think this trouble is purchasing 'em. For if my son Felix doesn't have a straight waistcoat put on him, he'll have his way. But I say no more. I wish you good morning, Mr. Lyon, and thank you, though I well know it's your duty to act as you're doing. And I never troubled you about my own soul, as some do who look down on me for not being a church member."\*

And what mere sensation-monger would have chosen this morally obtuse old Pharisee as the woman who would not the less take soft and tender care of "the orphim child"?

Yet we feel instinctively that though Dolly Winthrop is one of nature's aristocracy and a saint among women, even Dolly's motherly delight in Silas Marner's little "angil" is not one whit more genuine than Mrs. Holt's affection for little Job.

The mention of Dolly Winthrop takes us back to the point from which we started, and the divine mission of the little child who was sent to Marner:

"Anybody 'ud think the angils in heaven couldn't be prettier," said Dolly, rubbing the golden curls and kissing them. "And to think of its being covered wi' them dirty rags,—and the poor mother—froze to death; but there's them as took care of it, and brought it to your door, Master Marner. The door was open, and it walked in over the snow, like as if it had been a little starved robin. Didn't you say the door was open?"

\* "Felix Holt," p. 51.

"Yes," said Silas, meditatively; "yes—the door was open. The money's gone I don't know where, and this is come from I don't know where."

"Ah," said Dolly, with soothing gravity, "it's like the night and the morning, and the sleeping and the waking, and the rain and the harvest—one goes and the other comes, and we know nothing how nor where. We may strive and scrat and fend, but it's little we can do arter all—the big things come and go wi' no striving o' our'n—they do, that they do; and I think you're in the right on't to keep the little un, Master Marner, seeing as it's been sent to you."

This is pretty enough, but it is, if possible, surpassed by the description of Eppie's first and last punishment—

"She had cut the bond which held her to Marner's loom, and had wandered off alone while he was busy weaving, frightening him into the belief that she had perhaps fallen into the stone pits, whereas she was all the while discoursing cheerfully to her own small boot, which she was using as a bucket to convey the water into a deep hoof-mark, while her little naked foot was planted comfortably on a cushion of olive-green mud. A red-headed calf was observing her with alarmed doubt through the opposite hedge.

"Here was clearly a case of aberration in a christened child which demanded severe treatment; but Silas, overcome with convulsive joy at finding his treasure again, could do nothing but snatch her up, and cover her with half-sobbing kisses. It was not until he had carried her home, and had begun to think of the necessary washing, that he recollected the need that he should punish Eppie, and make her remember. The idea that she might run away again and come to harm, gave him unusual resolution, and for the first time he determined to try the coal-hole—a small closet near the hearth.

"Naughty, naughty Eppie," he suddenly began, holding her on his knee, and pointing to her muddy feet and clothes—"naughty to cut with the scissors, and run away. Eppie must go into the coal-hole for being naughty. Daddy must put her in the coal-hole." He half expected that this would be shock enough, and that Eppie would begin to cry. But instead of that, she began to shake herself on his knee, as if the proposition opened a pleasing novelty. Seeing that he must proceed to extremities, he put her into the coal-hole, and held the door closed, with a trembling sense that he was using a strong measure. For a moment there was silence, but then came a little cry, "Opy, opy!" and Silas let her out again, saying, "Now Eppie 'ull never be naughty again, else she must go in the coal-hole—a black naughty place."

"The weaving must stand still a long while this morning, for now Eppie must be washed, and have clean clothes on; but it was to be hoped that this punishment would have a lasting effect, and save time in future—

though, perhaps, it would have been better if Eppie had cried more.

"In half an hour she was clean again, and Silas having turned his back to see what he could do with the linen band, threw it down again, with the reflection that Eppie would be good without fastening for the rest of the morning. He turned round again, and was going to place her in her little chair near the loom, when she peeped out at him with black face and hands again, and said, 'Eppie in de toa-hole!'"

"This total failure of the coal-hole discipline shook Silas's belief in the efficacy of punishment. 'She'd take it all for fun,' he observed to Dolly, 'if I didn't hurt her, and that I can't do, Mrs. Winthrop. If she makes me a bit o' trouble, I can bear it. And she's got no tricks but what she'll grow out of.'

"Well, that's partly true, Master Marner," said Dolly, sympathetically; "and if you can't bring your mind to frighten her off touching things, you must do what you can to keep 'em out of her way. That's what I do wi' the pups as the lads are allays a-rearing. They will worry and gnaw—worry and gnaw they will, if it was one's Sunday cap as hung anywhere so as they could drag it. They know no difference, God help 'em: it's the pushing o' the teeth as sets 'em on, that's what it is."

"So Eppie was reared without punishment, the burden of her misdeeds being borne vicariously by father Silas. The stone hut was made a soft nest for her, lined with downy patience: and also in the world that lay beyond the stone hut for her she knew nothing of frowns or denials. . . . there was love between the child and the world—from men and women with parental looks and tones, to the red ladybirds and the round pebbles."

It had been intended to reserve the last word for the two Tullivers, but Maggie and Tom are known and remembered wherever George Eliot's books are read; and, without entering

upon grave discussions which would perhaps be out of place in this essay, it would be impossible to unravel their story:

"Its threads are Love and Life, and Death and Pain  
The shuttles of its loom."

No word has been said of Tessa or Tessa's children, though several of the most charming scenes in "*Romola*" are occupied with them, and there is one magnificent passage in the Epilogue in which *Romola*, warning Lillo against a life of easy self-pleasing, sums up in a few words the very heart and life of George Eliot's more conscious teaching, a doctrine in startling contrast with some more subtle and unspoken influences which vibrate through her work.

But it would be difficult to tear so long an extract from the context; let us leave the Epilogue and turn rather to the Proem.

I have tried to let George Eliot's innocent boys and girls speak for themselves, unspoiled by overmuch commenting on my part; and now that the bright procession has passed before us, it is with no surprise that we hear her expressing the thought which lies deep within our own hearts also, as she says to us: "The little children are still the symbol of the eternal marriage between love and duty; and men still yearn for the reign of peace and righteousness—still own *that* life to be the highest which is a conscious voluntary sacrifice"\*—*Macmillan's Magazine*.

#### A GLIMPSE OF MEXICO.

BY F. FRANCIS.

SAN FRANCISCO is rapidly forsaking the "dandy rig" of the gambler, and assuming the sober garb of commercial propriety. Stocks have gone "all endways." The old times when fortunes were made and lost in a day, when a man might go to bed a pauper and wake a millionaire, or wake a millionaire and go to bed a pauper, have vanished. Nor is it probable that they ever will return. Those were times! Refer to them in the presence of any one who knew them in their golden prime and mark how his eyes will glisten. How

eagerly will he launch forth upon a sea of anecdote! how he will revel in the train of recollections thus induced!

"Dog gone if I know the place!" said an old fellow to me when I was last there. "Ye never see a shot fired from year's end to year's end now. No, sir. Why, it isn't often ye even hear a champagne cork drawn. 'Stead of the chink of gold, ye hear nothing but the scratching of pens. All the boys are gone, and there's only store clerks and society

\* "*Romola*"—The Proem.



men—bummers we call 'em—t' associate with. Ye never saw such a change in all your life. I'll be dog if the women's half as pretty as they were. Hell! 'Tain't no sort of a place to what it used to be. No, sir."

Nevertheless, to the stranger it will seem that a spirit of princely extravagance still characterizes the inhabitants of the Golden City. With his last ten-dollar piece the true San Franciscan will dine sumptuously, take a box at the theatre, or a drive out to the Cliff House. His last twenty-five cents will be invested in a good cigar. The veriest "dead beat" who asks you for money in the street would feel insulted by a tender of coppers. The Californian will starve rather than pinch. Fortunately, he has only to work to be rich. —There is no fight for existence there. No man need jostle his neighbor. Such being the case, men accept greater risks and experience losses with less concern than is the case in Europe.

Returning to San Francisco after an absence of twelve months, I discovered that several men who during my previous visit had appeared to possess bottomless purses, had vanished from the club circle.

"Where is A.?" I asked.

"A. ? Oh, he's got a mine down in Arizona. When the bottom tumbled out of that Pole Star silver mine A. had to skin out of this."

"And what has become of B.?"

"Well, one of the boys met him prospecting down in New Mexico the other day. Said he was carrying his own pack, dead broke. B. will be up again though. He's a ruffler. You'll hear of him soon."

"Has C. gone too?"

"Yes. Soon after you left, they knocked Golcondas higher 'n a kite. C. was a large holder. They do say he's prospecting a new mine down in Tombstone County, and it's likely to turn out a Bonanza. Hope it will, anyhow."

Among these incogniti was a prince of good fellows, at whose hands I had formerly experienced the warmest hospitality. I determined to go south and visit him at his new mine in Sonora. In due course the Southern Pacific Railway landed me at Tucson. Thence the

journey had to be continued by stage. I was driven to the Metropolitan Hotel, to the proprietor of which, Mr. Maloney, I had a message of introduction.

"What time does the stage start for Magdalena?" was my first inquiry.

"Magdalena? Well, I guess you'll have to wait here till Saturday now. Stage went out this morning at eight o'clock," said the bar-keeper. It was nine o'clock on Tuesday. I had seen enough of Tucson *en route* from the station to prompt an impolite apostrophe to my ill-luck. The bar-keeper did not seem to realize any misfortune in a delay of four days at Tucson.

"Take a drink?" said he. "Thar's worse places than Tucson. Thar's places where you can't get a drink."

I took a drink. The bar-keeper joined me.

"Is Mr. Maloney in?" I inquired.

"Mr. Maloney has not long gone to bed. The boys was having a little game of 'freeze-out' last night. I guess he'll be about again at midday."

I was assigned a bedroom, or rather a loose box, in the quadrangle of bedrooms at the back of the saloon. After breakfasting, I strolled out to look at the town. Until, twelve months previously, the railway reached it, Tucson was an unimportant dobe village. Now it is growing rapidly. Edifices of brick are springing up. Practically it is the gateway betwixt Mexico and the Western States, and in a few years it will be a considerable town.

Under the shop awnings in the main street loitered a crowd of handsome, bearded, bronzed miners from the neighboring mining districts. To and fro flitted a few busy store-clothed store-keepers and clerks. Here and there a knot of men might be seen examining some specimen of quartz. Here and there a couple of leather-breeched cowboys, ostentatiously "heeled,"\* rode past on their Mexican-saddled bronchos. Yonder a chain-and-ball gang of convicts slowly advanced, sweeping the dusty road.

In a place of this kind the barber's shop, next to the drinking saloons, is the chief place of resort. The barber, in importance, ranks second only to the

\* Armed.

artistic mixer of cool drinks. He is hail-fellow-well-met with every one. Especially cheery and amusingly ceremonious is Figaro if he happens to be a colored man. His memory is prodigious. Men enter that he has not seen for months, and with whom he is perhaps only slightly acquainted. Yet will he resume the conversation precisely where it was terminated. He will remind his visitor exactly of what he said and what his projects were when he last was shaved, and he will persistently inquire how far those assertions have been verified and those intentions fulfilled. Having posted himself up to the latest date in all that concerns the victim of his curiosity, he proceeds in return to furnish him with biographical sketches of such later passages in the lives of his friends as may have escaped his knowledge.

Returning to the hotel I found that Mr. Paul Maloney had arisen. I also found a card of invitation from (I think it was) the Union Club, awaiting me. Being somewhat dubious as to the nature of a club in Tucson, I interrogated Maloney on the subject.

"Do you care to play monte?" he asked, weighing the card in his hand.

"Not particularly."

"Well."

That "well," drawled out and sustained, and the look that accompanied it, told me quite as much about the club as I desired to know. Paul and I cemented our acquaintance with cocktails.

Conversation at any time, on any topic, or with any person in Tucson, invariably led to this ceremony. Cocktail drinking has a peculiar charm of its own which lifts it above drinking as otherwise practised. Your confirmed cocktail drinker is not to be confused with the ordinary sot. He is a true artist. With what exquisite feeling will he graduate his cups, from the gentle "smile" of early morn to the potent "smash" of night. The analytic skill of a chemist marks his swift and unerring detection of the very faintest dissonance in the harmony of the ingredients that compose his beverage. He has an antidote to dispel, a tonic to induce every mood and humor that man knows. Endless variety rewards a single-hearted devotion to cocktails; while the refine-

ment and artistic spirit that may be displayed in such an attachment, redeem it from intemperance. It becomes an art. It is drinking etherealized, rescued from vulgar appetite and brutality, purified of its low origin and ennobled. A cocktail hath the soul of wit, it is brief. It is a jest, a bon-mot, happy thought, a gibe, a word of sympathy, a tear, an inspiration, a short prayer. A list of your experienced cocktail drinker's potations for the day forms a complete picture, fraught with every nuance of delicate shading. Nothing is so delightful in nature as the effects created by liquid. Why should this not be so in human nature too?

At length the four days passed, and seated in the corpulent, dropsical old coach with its team of four wheelers and for leaders, we rumbled slowly out of Tucson.

The passengers were a Mexican dame with a baby, a Mexican man, a miner and myself. There was a coachman, and a second whip who sat beside him, with a short but powerful weapon. Thus armed he made short excursions from the box-seat to the ground, while the coach was in motion, and fought it out with any refractory member of the team as he ran along. Collecting a pocketful of the wickedest stones he could find, he would then return and pelt the bronchos from his proper elevation. Another of his duties was to disentangle the team when, as not unfrequently occurred, so many of the leaders faced the wheelers that further progress became impossible. It also fell to his lot to tie the coach together when its dissolution was imminent. In the performance of his various duties, this individual displayed considerable agility, ability, and resource.

The Mexican dame was frightful. It was evident that the baby was her own. Nor was the family likeness the only proof of their relationship. It was a musical baby. Mother and infant left us at the end of the first stage. The male Mexican slept all day. Toward evening he awoke and reduced himself to a state of complete intoxication with mescal. The miner never opened his lips until the following morning, just before we entered Magdalena, when we happened to pass a jackass rabbit.

"Next jackass rabbit we see, I'll be dog durned if I don't shoot him," said he.

He forthwith produced one of the largest Colt's revolvers that is made and cocked it. But we did not see another rabbit, so I missed this exhibition of his skill. He subsequently proved to be an Englishman.

By the pace at which we proceeded during the night, I judged that the Mexican's bottle of mascal was not the only one we had on board. The jolting was terrific. Beside encountering the regular ruts and inequalities in the ground, we struck every now and then full gallop against a loose boulder, or the projecting surface of a rock, the shock of which brought our heads in stunning contact with the brass-capped nails that studded the roof of the coach. I was sometimes in doubt whether my neck was broken or not. When Magdalena was reached my scalp was raw, and every angle I possessed was bruised.

Stage travelling in Mexico, if this was a fair sample of it, is neither luxurious nor speedy. Owing to the irregularity with which the coach is conducted, it is impossible for relays to be in attendance. Not until the coach arrives is a man sent out to drive in fresh horses from the country. As they roam free over the broad mesas, they may be miles from home, consequently it is no unusual occurrence, for the best part of a day to be wasted before they are found. Outward bound, we were singularly fortunate in this respect. On the return journey our delays were all prolonged, in some cases exceeding even five or six hours. The wattled sheds and huts at which these intervals are passed are of the filthiest description.

Some of the teams were curiously mixed. One consisted of three donkeys, two mules, and three bronchos. Most of them were partly composed of mules. Some were poor, others remarkably good. Particularly noteworthy was the performance of a level team of sturdy bronchos, that we picked up late in the afternoon, and that of a fine team of mules which took us into Magdalena on the following morning. The stages were about sixteen and eighteen miles respectively. With the exception of a few short stoppages occasioned by

trouble with the harness, these distances were covered at full gallop, notwithstanding which, the teams pulled up almost as fresh as they started.

In one instance a deficiency of stock necessitated the lassoing of a horse that had never been broken. He fought gallantly, and an exhibition of singular brutality ensued which lasted nearly half an hour. In the corral,\* however, there was no escape for him, and eventually he was thrown half-strangled on the ground, when the lasso was loosened, and a few minutes were given him for recovery. Not until these tactics had been thrice repeated did he allow himself to be harnessed. Once in the collar, he had to go with the rest. I must do our driver the justice to say that he handled the ribbons with admirable skill and audacity. To add to the interest of the trip, it was expected that we should be stopped by cowboys. These knights-errant had lately "gone through" the coaches with great regularity, and in anticipation of an encounter our driver and his aide were armed to the teeth. Fortunately, neither our wealth nor valor was called into requisition.

With demoniacal yells and a furious cracking of whips, we dashed into Magdalena and pulled up in the Square. It was Sunday. The good people were just issuing from the church. Mexican maidens in white or brilliant robes trooped out in twos and threes, and hand in hand went laughingly homeward. And here I feel the scribbling traveller's temptation to romance. A fanciful picture of some dark-eyed beauty, with proud Castilian features, and playful dignity and grace of manner, would fit my tale so well. You would be none the wiser. In a Mexican sketch one expects a pretty woman, even as one looks for lions in African and elephants in Indian scenery. But I will be conscientious. I was so disgusted myself that I would have you also somewhat disappointed. Expect, therefore, no glowing description of female loveliness from me. Good-looking women doubtless exist in Mexico, but I have only been a few miles over the border, and have not seen them. A hazy

\* Pound or enclosure.

recollection of flowers, in connection with this scene of church-going damsels, haunts me. But whether they were worn in the hair, or in the dress, or simply carried, I no longer recollect. Men in their colored zarapas and broad-brimmed hats chatted and smoked the eternal cigarette. Old women in black robes loitered about and gossiped. The commandante and a few officials sat on one of the old stone seats. A few miners loafed before the American hotel, the name of which I forget, as also that of the plump, jovial, masterful hostess and her tame English husband. Here I breakfasted, and in the afternoon went out to the mine—a distance of about twenty-three miles.

Past the Sierra Ventana (so called on account of the hole or window by which a shoulder of it is perforated) and over wave after wave of rolling country sparsely scattered with mesquite-bush we rode, my guide and I, toward some ruddy hills in the distance. And dusk had fallen and night had come, when we ascended the mountain spur on which the mine was situated. The stalwart form of my friend, whom I will call by his nickname, Don Cabeza, came out of the cottage. Not expecting me, he took me for a new mining hand.

"Buenas noches, señor," said I.

"Buenas noches."

"Habla V. Castellano?"

"No hablo so much as all that comes to."

Then I burst out laughing.

"Why——! If it isn't Francis!"

What a warm-hearted greeting he gave me! How hospitably he spread the best of everything he had before me! and even would he have relinquished his bed to me, had I allowed him to do so. I had a quantity of news for him, but much as he longed to hear it, he insisted on its narration being deferred until I should have slept and rested.

There is much that is very admirable in the character of these Western men. I speak not of the "store clerks and society men or bummers" for whom my old Frisco friend had such undisguised contempt, but of those who came in early days to California. They are lost in a crowd of a different type and of a later date now; wherever you find one

though, you will find a large-hearted, generous man, with nothing "small or mean" in his whole character. In the better stamp of old Californian there is less of the snob than in any man in the world. He cares very little for what Pall Mall would call "good form," but he cares a great deal for what is manly and unselfish, and in carrying out these views he is as fearless of what others may think or say as he is of what they may do.

Those days were very pleasant up at the mine. Lazy? Well, yes; I fancy everything in Mexico is more or less lazy. We were so entirely out of the world; the trip moreover was so utterly disconnected with anything that came before or followed it, that, when I look back upon it, it stands out in solitary relief.

The Santa Ana was a new purchase; Don Cabeza was prospecting it. It promised well, but as yet he had not commenced to work it on a large scale. A dove cottage of three rooms had been built for him and the foreman, and here we lived. Below us, in wattled huts, dwelt the Yaqui miners and their families. A little removed from the cottage was an open bough-thatched arbor, in which we took our meals. Between this and the cottage was a stunted tree that served various purposes, beside being shady and ornamental. Lodged in the first fork was our water-barrel. The coffee-grinder was nailed to its trunk. In a certain crevice the soap was always to be found. Upon one bough hung the towels; the looking-glass depended from another. One branch supported the long iron drill that, used as a gong, measured with beautifully musical tones the various watches of the miners. Amid the roots, the axe in its leisure moments invariably reposed. Our tree, in short, was a kind of dumb-waiter, without which we should have been lost.

The country teemed with quail and jackass rabbits. We bought an old Westley Richards shot-gun in Magdalena, and did great slaughter among them. Deer were reported to be numerous, but during my stay we saw none. A great part of our time was spent in cooking. The China boy, nominally *chef*, was so wondrously dirty



that, one day we rebelled and degraded him to the post of scullion; and, being rather proud of our culinary skill, we undertook the preparation of the meals ourselves. Jerked beef, bacon, quails, jackass rabbit, beans, and rice were the articles we had to work upon. Don Cabeza mixed the introductory cocktail, and took charge of the jerked beef and beans; the quails and jackass rabbit fell to my care; bacon was a neutral property; the rice we left to the Celestial. Most elaborate, at least in the titles, were the *menus* we produced. One Mexican dish that the Don used to prepare, of jerked beef pounded and fried with a little butter and a few chopped chillies, was worthy of note. Jerked beef and jackass rabbit! We laughed as we compared these frugal meals with the extravagant breakfasts and dinners of a year ago at "March-and's," the "California," and the "Poodledog" in San Francisco. And, by the way, if you are known at either of the above restaurants, you can be served there with a dinner that neither the "Trois Frères" nor "Bignon's" could easily excel.

Every now and then, some Yaqui men or women would come up from their little colony below to purchase something from the storeroom which, owing to the distance from town, it was necessary to keep for their benefit. Great was the mirth of the women to see Don Cabeza and me cooking. They said we were "loco" or mad. Good-tempered creatures were these Yaquis and easily pleased, for they regarded it as a signal compliment if I sketched one of them.

I never could understand why time sped so rapidly at the mine. There was really nothing to do there. So far as I was concerned this was fortunate, for, had there been, I never should have found time in which to do it. *Poco tiempo* is a phrase very easily adopted in this land of idleness and procrastination. Before morning had fairly broken, evening approached. And what evenings they were!

In the rear of the cottage, the spur led up to rocky cañons and gaunt ridges; before it, vast mesas stretched like a sea away to a far-off horizon of mountains that, in the distance, looked as soft as

low down clouds. Behind these purple ranges we lost the sun at night, when it sank to rest a molten mass of glowing, gleaming, iridescent fire, blinding to gaze upon. Swiftly it passed beyond ken, and sable shadows fell and dimmed the landscape. With imperceptible process they knit its distances together, shrouding the intervals in mystery and obscurity, till nought but the deceptively near sky-line was clearly visible. And above it like a halo on the mountains, the glow of orange deepening into red still suffused the heavens with subdued illumination. Thus on the one hand might be seen, high set in a fathomless depth of blue, amid glittering cohorts of stars that were far and near twinkling and fixed, blue and white and red and yellow, the silver beauty of a crescent moon; on the other the lingering glory of the vanished sun. The effect was curious.

The foreman went early to bed and was early abroad. Not so Don Cabeza and I. When the mocking-bird in the mesketis-bush had ceased its plaintive song, and silence fell upon the land, we would light our largest pipes, endue us in our easiest garments, and sit (he on a carpenter's bench, I in a barrow) smoking and yarning, yarning and smoking, without thought of time, through the still watches of those enchanting southern nights. How many and what pleasant hours did we spend thus! But then Cabeza possessed a shrewd, crisp vein of wit, and an inexhaustible fund of experiences, yarns, anecdotes, and arguments. No more amusing fellow to sit and smoke with ever breathed.

Occasionally we went into Magdalena for stores and letters. Magdalena can boast of a past of some prosperity; a more important future lies before it. At present it bears the stamp of dilapidation, poverty, and squalor that characterizes most Spanish towns. Probably not a dozen of the inhabitants are unincumbered with debt, nevertheless everybody, even to the beggar in the street, possesses from two or three to ten or a dozen mines. It sounds absurd to hear a fellow in rags discoursing glibly about his mines. Still more absurd is it to know that many of them are really of great value. The iron safe, however, is only to be opened by a

golden key, and a coined dollar in Magdalena is worth a fortune underground. Little doubt exists that, when the railways now entering from the States are completed, and capital and energy pour into the country, enormous wealth will be found hidden in its veins of quartz. The hills around Magdalena give evidence of gold, silver, and galena ore in every direction. Nor is gold wanting in the river-beds and valleys. All that is required is energy and capital.

Scarcity of water circumscribes the relative area of country suitable for cultivation; but where it is to be obtained its effect is magical, and the fertility of the land becomes almost incredible. Not a tithe of that which is eligible is cultivated, for the indolence of the natives is remarkable. Even such ordinary vegetables as potatoes and onions are scarcely to be obtained. A zarapa, a handful of beans, and a little tobacco suffice for all the Mexican's requirements. If his vocabulary were limited to "Porque?" and "Poco tiempo," it would not inconvenience him.

Northern Sonora derives its chief support from cattle. In most instances the ranches are of large extent, but poorly stocked. Formerly they were in better condition, but they suffered severely from Apache raids, from which it is said that they have never entirely recovered. The Indians drove off or killed all but the very poorest animals, and the ranches have been restocked by the slow process of breeding from those they left. Latterly a few bulls and stallions of a better class have been imported from the States. It is difficult to obtain a title to rancho property here. The rancho usually belongs to all such members of the family as choose to remain and live upon it. In some cases, therefore, the proprietors have become very numerous, and as families are not more apt to agree upon any given point in Mexico than they are elsewhere, a vast amount of bribery and diplomacy is required to effect a purchase.

One day the Don and I came into Magdalena with the avowed intention of hiring a cook. The foreman, and Charley the Chinese boy, had been despatched once or twice unsuccessfully on the same errand, but Cabeza said:

"I guess if we go ourselves, and they see how real nice we are, they'll all want to come." Accordingly we enlisted all the storekeepers in the place in a search for "a real way-up cook who can make chile-con-carne, tamales, and all the best Mexican dishes, beside understanding American cookery." "And say," Cabeza would conclude, in giving his directions, "she's got to be a beautiful woman too, because we're good-looking ourselves and we don't like to see homely women about the place."

Having posted our requirements in the various stores, we went off to the American hotel, where, by dint of making desperate love to the plump hostess, we succeeded in obtaining a sack of potatoes and half a sack of onions—part of a consignment she had lately received from Hermosillo. She had just been engaged in a battle royal with the waiter, whom she had demolished with the kitchen coal-shovel. She was inclined, therefore, to be very affable and good-humored, nay, she even volunteered, for a consideration, to come out to the mine and cook for us herself.

"You want a boss cook and a beauty, Don Cabeza, eh? Well, I guess I'm both. What'll you give me to come out to the mine and cook?"

The Don was equal to the occasion.

"The fact is, Mrs.—, if we got you out there we should lose the only pleasure we have; we should never be able to get away, to come in here and see you," said he.

In the principal square in Magdalena stood the church; near it were the ruins of a still more ancient edifice. To the latter, called the Church of San Francisco, a legend was attached. I give it as it was related to me by a miner.

"Wal see, San wa'n't always a saint, San wa'n't. They do say he was 'customed sometimes to go on the scoop, on a bend as it were. However, he changed over in time and come to be a Bishop. This here district was in his claim. Wal, happened once when the Bishop was prospecting round, to see that the sky pilots on his claim was all at work, that the outfit banked up here for the night. Next morning, when they was all hitched up and ready for a

start, they come to hoist old San on his mule and couldn't prize him up anyhow. They put on fresh hands and tried all they durned knew, but San he'd kind o' taken root, and thar he sat like an oyster on a rock, and weighed as heavy as a ton of lead. "Boys," says he at last, "ye can let up hauling, soon as ye durned please. Guess I'll stay right here. Waltz in now an' put up a church right away." And thar he stopped sure 'nough. An' that's how this here church an' town come to be built; least, so folks say hereabout. But they do lie here, too," he added reflectively after a pause.

I was making a sketch of this ruin one day, when the hostess of the American hotel came up and looked on.

"Why, if that ain't the old church! Say, are you a drawing-master?" she asked.

"Yes," said I, mendaciously. "Do you think I could get any pupils about here?"

"Don't know; guess they don't go much for drawing here. You might get a few girls if you were cheap."

After the dusty and dirty town, we returned to the prettily situated dobe cottage at the mine with renewed pleasure. At length the time came for me to depart. The horses were driven in from the mesas; the near fore cart-wheel (which, when not in use, was invalidated and kept in water, to prevent the wood shrinking from the iron tire) was fixed on; the old cart was lined

with blankets, and we started one night after dinner to drive into Magdalena for the last time.

The day had been oppressive, but now there was a refreshing softness in the air. At every pace as we jogged along, hares lolloped across the road or played amid the scattered mesquit-bush on either side of it. Occasionally the howl of a distant coyote might be heard. Night-hawks and owls flittered silently to and fro, and "shard-borne beetles," drowsily sang as they wheeled in the dreamy welkin. The stars, the stillness, and the silken winds combined to work a charm. Night wore her richest jewellery, sang low her softest melody, whispered her sweetest poem, and showed her beauty all unveiled even by the lightest fleece of silver cloud. Until I saw these Mexican skies I never knew how much more beautiful night was than day. For every star you dimly distinguish here, a thousand are clearly visible there. Their number and refulgence startle you. Were I to live in Mexico, I should be strongly tempted to rise at sundown and go to rest at dawn.

Once more the corpulent coach looms into view. Once more am I uncomfortably ensconced therein. With a torrent of Spanish invective and a terrific cracking of whips, we slowly start. The coach turns round a corner and I catch a last glimpse of Don Cabeza, with his hat off in the road, waving a kindly adieu to me.—*The Nineteenth Century*.

#### THE RUSSIAN BAYARD: PERSONAL REMINISCENCES OF GENERAL SCOBELLEFF.

BY W. KINNAIRD ROSE.

Too often the panegyrics pronounced by great sovereigns over departed servants or devoted adherents must be relegated to the category of "insincerities heard around open graves." But never were more transparently truthful sentiments given expression to than those wrung from the heart of the Czar of all the Russias when informed of the demise of the Russian Bayard, General Scobelev, and contained in the message which his Imperial Majesty dispatched to the General's sister, the

Princess Bielozelesky. "I am," said the Czar, "deeply shocked and afflicted at the sudden death of your brother. His loss for the Russian army is one which it is hard to repair, and it must be deeply lamented by all true soldiers. It is very painful to lose the support of such a man." But beside being endowed with the highest military genius, Scobelev's influence was commanding in the development of the living question of Pan Slavism. Nor was it remote upon the curiously mixed and ever-

changing current of general European politics. His loss to his imperial master, to whom he was personally deeply attached, is a great blow at the present critical moment in Russia, but it is a greater to the national or Panslavistic party, the realization of whose aspirations is the guarantee for reform in the Great Eastern Empire and the saving countercheck to the spread of the demoniac principles of Nihilism.

The idol of a race numbering between eighty and ninety millions; the unconfessed dread of another and rival nationality; the admiration of all imbued with the military instinct; the tenderly beloved of those who had the rare felicity of his friendship; the object of passionate devotion on the side of the thousands who had come under the magnetic influence of him whom Carlyle would have described as kingly; all this, and more, was General Scobelev, and a nation's tears and the stirred emotions of two continents testify to the greatness of the personality which a few days ago made his exit from the world's stage, and to the deep feeling which the sad and abrupt close of a heroic career has excited.

In describing him as the Russian Bayard I am only making use of a happy predictive phrase which a prince of the empire employed in conversation with me three years ago. Scobelev's military genius has been universally admitted and of late generally confessed, but few, at least in Western Europe, were aware of his wide and varied culture, his chivalrous character, his burning love of country and race, of his deep and earnest religious convictions, of the almost womanly tenderness of affection which he had for the inner circle of his friends. And the purpose of these personal reminiscences is to present General Scobelev in the light in which he appeared to me throughout a somewhat prolonged intercourse.

Michael Dimitritch Scobelev was born on the 29th September, 1843, and had thus barely attained his thirty-ninth year. He did not come of an old or noble Russian family, though his father was a general, and had won considerable reputation as a cavalry commander in the campaign against Turkey in 1854.

Baron Stuart, Russian minister at Bucharest, himself, as his name indicates, of Scotch descent, informed a common friend that the elder Scobelev was the grandson of a Scotch emigrant to Russia, Scobie by name. I remember asking young Scobelev as to the truth of this report, whereupon he replied, "I believe there is something in it, but I make little account of genealogical trees. Mere family never made a man great. Thought and deed alone, not pedigree, are the passports to enduring fame."

Young Scobelev's general education was received mainly at home, on the paternal estate of Spasskaje and at Moscow, under the superintendence of his mother, and with the assistance of a tutor of French nationality. Scobelev was warmly attached to his tutor, who remained as a friend of the family, at Spasskaje, till the close of his brilliant pupil's too short life. I had frequent opportunities of meeting with this excellent man. Possessing little of the sprightliness of his race, he was reserved, shy, and unobtrusive in the presence of strangers, but *en famille* frank and animated in conversation, which displayed, though not pendantically, his profound learning and varied reading. It was easy to see under what influence Scobelev had developed the taste for letters which he had inherited from his mother.

Carlyle has somewhere said that every student and reader of history who strives earnestly to conceive for himself what manner of fact and man this or the other historical name can have been, never rests till he has made out what the man's natural bearing and face was. Let me present a portrait of the Russian Bayard. About six feet two inches in height, well proportioned, square shouldered, he had a firmly knit body, muscular and lithe rather than stout, clean limbs, with free and graceful movement. His hand was not large, but sinewy, with the nervous grip denoting ready decision and warmth of heart. A woman would have described his face as handsome, and it was manly in every lineament. With short-peaked, fair, almost golden, whiskers, the clean shaven chin and well-cut mouth, almost covered by a long mustache,



indicated great firmness of purpose and strength of will. His nose was large, straight, finely moulded, and not too prominent. The flexible nostrils dilated in the excitement of battle or animated discourse; this and the flashing light of his bright blue eyes being the only indications of the volcanic energy of the man. His forehead was lofty, rounded rather than broad, and his head, covered with short silky golden hair, of a fine dome shape. On foot his tall and graceful presence, his free, open, and courteous manner, riveted attention. One felt instinctively that he was face to face with a king among men. He was the best horseman I ever saw bestride a thoroughbred, and his splendid personal bearing at the head of a column of cavalry or the central figure of a brilliant staff fully realized one's idea of the knightly character. His mount was a white or light gray thoroughbred. In a campaign he had always three remounts of these white chargers, which were bred on his own estate at Spasskaje. His attachment to his horses was as that of an Arab, and next to cruelty to men, nothing roused him more than inattention or cruelty to his equine favorites. He admired the English thoroughbred as the most perfect of the equine species, and declared that the best cavalry horses in the world were a cross between it and the horse of the Ukraine. From his white uniform and white charger he received among his Turkish foes the name of Aak Pasha. Wherever the fire was hottest or the combat most deadly there was the Aak, or White Pasha, and Scobelev came to be regarded by the superstitious Turkish soldiery as a species of demon with a charmed life.

This reputation, by the way, was not confined to the Turkish army, though with the simple Russian soldiers his charmed life was believed to be due to the special interposition of Saint Demetrius. A sister of mercy who was a nurse in one of the field hospitals in the ravine close to the Lovacha road at Plevna told me that a wounded soldier whom she was tending had solemnly assured her that nothing could hurt the General. The bullet which had shattered his arm had, he said, first passed clean through the General, but as

usual without injuring him in the slightest.

An apocryphal story comes from Paris that General Scobelev was extremely superstitious, and that the reason why he always rode a white horse was "that a gypsy had foretold he would never come to harm while mounted in that fashion." What I have related above completely disproves the gypsy fable, and nothing could be farther from the truth than the allegation that so robust-minded a man was superstitious, taking that word either in its grosser or its more spiritual acceptation. But, like every other generous or high-minded man, he regarded the superstitions of a simple and ignorant people more with compassion than with contempt, and on more than one occasion, touching on this very subject, he expressed to me the hope that superstitious observances, which he wisely insisted degraded both individuals and nations, would by and by be eradicated by the spread of education. During the hundreds of years of Turkish rule in Bulgaria, the dominant authorities sternly prohibited the public display of the cross—the symbol of the Bulgarians' faith. Immediately after the Russian occupation, with childish delight they hung up crosses of wood, of flowers, of grasses, across the highways, on trees, on houses, in fact everywhere. I remember directing the General's attention to this patent fact and rather admiring the feeling which prompted the act. He neither approved nor condemned the practice; it was, he said, but the natural and simple expression of the faith of a deeply religious people. On another occasion, eighteen months after the battle of Senova, I accompanied General Scobelev on a farewell visit which he made to the scene of the bloodiest battle of the war. In the gathering twilight he said to me, "Are you afraid to sleep over the graves of twenty-five thousand men?" The question had never occurred to my own mind. At home, as a matter of choice, I certainly would not have selected a grave-yard as a bivouac, but in Bulgaria one had to submit to many little inconveniences. Besides, neither at home nor abroad had I ever seen a ghost, and as an answer to his somewhat quaint

inquiry I was about to repeat aloud this latter thought, when the General added, "There are thousands of men, even brave men, who would not do it, and few women in the world would have the courage. But we have no belief in the old ballads which tell us that the dead rise at twelve o'clock at night and bemoan their untimely fate."

Again during the investment of Plevna I paid a visit to the late Mr. McGahan, the war-correspondent of the *New York Herald*, in a peasant's little house, where he was laid up from the effects of a fall from his horse. I found there our common friend, General Scobelev, with whom I strolled in the courtyard after chatting for a time with the disabled and genial American. We came upon the good woman of the establishment, engaged in what appeared to her a deeply important task. Her husband was sitting on the ground, shaking with aguish fever, and she was leaning over him—in one hand a rod of wood, over which was hung a skein of yarn, and in the other an open knife. Touching the poor patient's head and shoulders and arms, etc., with the rod, she tapped the latter with the knife, and uttered the while what seemed certain set phrases. The General, who knew Bulgarian perfectly, informed me that the woman was performing an incantation, and he asked her the purpose of her mysterious procedure. She replied that it was to drive away the fever, adding that she had cured a former husband in a like manner. When this was explained to me, both of us laughed heartily at the naïve remark, and the General said that she would have a much better chance of preserving this husband if she were to consult a doctor. With thoughtful kindness the General afterward sent a Russian army surgeon to prescribe for the patient.

Genial good-nature and a remarkable warmth of heart were eminently characteristic of this chivalrous soldier. I remember seeing him cast his cloak over a wounded linesman who had had his leg shattered by a shell on the vine-clad slopes leading from the ravine to the Green hill at Plevna; and at a subsequent date, when McGahan was hurt, he sent him his only remaining wrap.

When the 16th Division, of which he then held command, was quartered in and around Slivno, I accompanied him one day in his round of inspection. And here is an exact report of the visit written at the time to a little friend in England, "General Scobelev carefully goes over the soldiers' quarters, to see that the men are comfortable and that their food is good. He tastes their broth, and millet porridge, and bread and meat, and woe be to the contractor who supplies bad stuff. When we made our unexpected entrance into the yard which constituted the kitchen of the regiment, we found a lot of hungry little boys and girls whose parents had been killed by the Turks. They were hanging about quietly watching the soldier-cooks with hungry eyes, and hoping that they might come in for a little bit of the dinner. The soldiers, when they saw the General, whom they all love and admire, were not very sure that they were doing what would be approved of in giving a share of their dinner to the poor starving orphans. So they tried to screen them when they drew themselves up to salute the General. General Scobelev, however, observed the urchins, and at once surmised what they had come into the yard for. And he said to the soldiers, 'Do you give some of your dinner to these ragged children?' They saluted, and said, 'Yes, your Excellency.' 'Do they come every day?' again asked the General. 'Yes, your Excellency,' was the answer of the soldiers. Then the General, quite moved, dropped his angry tone and said, 'That is right, my men; a brave soldier is always a kind comrade; and a kind man is always a brave soldier. Never forget,' he added, 'to share your little with the poor and the starving.' The soldiers thereupon gave a hurrah, and Scobelev instructed his aide-de-camp to distribute some money among the little things."

Some time before the last-recorded incident I was travelling with General Scobelev from Philippopolis to Kazanlik, when our carriage broke down at Kalofer. During our enforced stay the General, as was his wont, went in and out among the inhabitants, making kindly inquiries as to their lot in life. A woman who had taken to her home

two children, orphaned during the massacre at that place by the retreating Turks on Gourko's first advance across the Balkans, was earnestly commended for her disinterested behavior by the General, who added that "it was the duty as well as the privilege of the poor to help each other at a time when God sent misfortunes upon them." I wished to offer a little money to the woman, but the General, speaking in English, forbade it, stating that it might take the edge off the very proper feeling which had manifestly prompted her good action, and blunt the spirit of independence which he was glad to observe was the rule among the peasants of Bulgaria. But the General himself comforted the hearts of a crowd of children who had collected by a free distribution of sugar—the whole stock of which he had purchased from a little store in a half-ruined house.

Closely connected with this aspect of Scobelev's character was his deep religiousness. His religion was broader than creed and deeper than form, with its roots, mayhap, in the pietistic side of human nature so strongly developed in the members of all the branches of the great Slavonic race. Naturally conforming to the orthodox Greek Church, which he thought, with his friend Aksakoff, peculiarly suited to the genius of the Slav people, he was so little of a fanatic as to recognize that religion did not consist in either belief in Church or confessions of faith, nor in profession, but in a lofty conception of duty, discharged as earnestly as the strength of the hour permitted. The sum of his doctrine seemed to be, "Whatsoever thy hand findeth to do, do it with all thy might," leaving the rest with God. And it was in this light—not the blind fatalism of the Turk, but the assured faith of the Christian—that I heard his remark on being driven out of the Green Hill redoubts after the disastrous assault on Plevna in September, 1877. "I have done my best; I could do no more. I blame nobody; it is the will of God." Nothing could have been finer than the high-strung fervor and the clear-ringing emotion of a soul stirred to its depths, with which he recited to me on the battle-field of Senova a poem by, I think,

Aksakoff, in which the entrance to the tomb is, at a distance, pictured by the imagination as terrible, but when encountered in a holy cause loses all its terrors, and becomes the entrance to heaven itself. I was forcibly reminded of Wolfe declaiming Grey's "Elegy in a Churchyard" on the eve of the assault upon Quebec.

Nor shall I ever forget a solemn service for the repose of the souls of the dead which was held on the same battle-field of Senova by the General and a score of companions. Scobelev's chaplain chanted the mass, with a simple dragoon for clerk. "Every head was uncovered" (so I noted at the time); "the party stood in respectful groups around a monumental column with its cross—the General to the right of the priest. The sun shone in unclouded splendor, nature seemed hushed for the moment, and the white mists floated hazily about the head of St. Nicholas—the highest peak of the Balkans. I have witnessed the gorgeous ceremonial of continental Catholic cathedrals—have taken part in the rich ritual of Anglican churches—have listened to the sonorous mass in a Greek cathedral—have worshipped in the simple chapels of Presbyterian Scotland—but have never been present at a more impressive religious service than that on the battle-field of Senova. Creeds and forms were forgotten in the solemnity of the act and the earnestness and devotion of the worshippers; and as the trembling accents of the priests, with the deep but sweet responses of the dragoon-clerk, were borne on the still morning air, one could not but hope that 'all was well' with the thousands of brave men who had perished in the discharge of duty. As the service progressed the General wept like a child, and among the small but deeply moved congregation there were few dry eyes, albeit these hardy and sometimes rough warriors are seldom used to the melting mood."

Scobelev's intercourse with his parents was peculiarly touching. It is seldom that there is such perfect confidence and mutual regard between father and son as existed in the case of the older and the younger Scobelev. An incident which illustrates the father's fondness for his famous son occurred in

my presence. It happened two or three days after the successful crossing of the Danube by the Russians at Zimnitsa—at which the younger Scobelev had fought as a volunteer, carrying rifle and bayonet, and leading the charge up the steep slopes of Sistova. The mighty river was as yet unbridged, and it became necessary to strengthen the force of cavalry in Turkish territory. The engineers, for the purpose of building the bridge of boats, had taken possession of the pontoons which had been previously employed in ferrying across the few detachments of horsemen then on the Sistova side. Young Scobelev suggested that the cavalry should swim across, and he offered to demonstrate the practicability of his scheme. No sooner said than done. He mounted his white charger, wound his way down the scarped clay cliffs at Zimnitsa, across the small bridge which spanned a creek to the island of Ada, and then, entering the river, the gallant horse, guided by Scobelev's skilful hands, made for the further shore. The bold experiment was watched with breathless interest from the high ground on the Roumanian bank, and no more moved spectator of the daring enterprise stood there than the gray-haired father. With his binocular he eagerly followed the progress of his son and his gallant charger through the swift current. Then his arms began to shake, and his hands refused to hold the glasses to his eyes. He who had headed eight hundred troopers in a fierce onslaught upon five thousand Turks was unnerved at the sight of so venturesome a deed. Prince Tzeretlev, who was by his side, noting the slow course of his comrade in his unequal struggle with the moving waters, in response to the earnest appeals of the old general, reported every circumstance of the exciting adventure. By-and-by emotion broke the voice of the father as he exclaimed, ever and anon, "Oh, my brave boy! Is he drowned yet?" And when young Scobelev touched the little shelving bay below Sistova in safety, a ringing cheer was given by the Russian soldiery who had witnessed the rash feat; and the group which surrounded the gray-haired warrior echoed his "Thank God!" as much for his sake, as for the

success of an undertaking almost unparalleled in its temerity.

The affection of Scobelev for his mother and her's for him was extremely beautiful. I recollect at Philippopolis, in 1879, she spoke to me of her "noble, handsome boy." He was always a boy to her. And the fine mobile features of the stately, high-bred, and courteous dame worked with emotion as she deftly touched on the "deeds o' derring do" by which he had attained his well-merited fame. She had taken a deep interest in the Russo-Turkish campaign both because husband and son were prominent figures in the great drama, and because, with Aksakoff, she believed that its results would be "the regeneration not only of the Slavs of the Balkans but of the whole Slavonic world." At the close of the war, her husband no more, she came to Bulgaria, and found at once consolation in her bereavement and an outlet for her abounding energy in the organization of hospitals for Bulgarian children, and in the foundation of schools—for, like her son, she had an enthusiastic belief in education. When I met her, she was in the midst of the preparations for establishing in the neighborhood of the battle-field a school, hospital, and church, to be endowed out of her private estate, in memory of her son's great victory of Senova.

By the irony of fate, it was Scobelev's great love for his mother that was the means of her sad and untimely death. He had detailed as her attendant and guard one of his own aides-de-camp—a young Russian whom he had literally out of compassion raised to the position which he then held. This scoundrel formed the diabolical plan of murdering his patron's mother and robbing her of her jewels and a sum of £5000 which she had in her possession for distribution among certain institutions which she had founded or taken under her protection; and the fell purpose was accomplished while Madame Scobelev was on a journey from Philippopolis to Sofia. Scobelev was at that time engaged in his latest campaign of subduing the Turkomans of the Yeok Tepe, and I believe that he never fully recovered from the stroke of the cruel blow



which his beloved mother's terrible fate gave him.

"Had he not been a soldier, he would have been a student," said Scobelev's old tutor to me one day, referring to his pupil's love of books and to the marvellous range of his knowledge, and using the word "student" in its widest sense. The extent and accuracy of Scobelev's literary acquirements were astonishing; but when one considered that from youth he had been a man of action in the tented field and a victim "of most disastrous chances, of moving accidents by flood and field, of hair breadth 'scapes i' th' imminent deadly breach"—it was simply amazing. How he ever had time to read and digest his reading was a mystery. On one occasion, in discussing with him what both of us considered the most unjust and unjustifiable attacks that had been made upon Russia, Russian patriots, and the conduct of the Russian Army, I suggested that no one, from his literary power, his accurate acquaintance with all the facts, and his honorable position, was more fitted than he to undertake the task of silencing calumnious misrepresentation and defending the standpoint assumed by the leaders of thought in Russia. He brushed aside the suggestion, not, one could perceive, from conscious inability for the task, but with the remark: "I am a soldier, and so long as I have fighting to do, I will not enter the arena of polemics." From the speeches which he delivered in St. Petersburg, Paris, and Warsaw, within the last year of his life, perhaps he felt that the time was approaching when he ought to enter the lists of polemical discussion, but, unhappily, that period never did arrive for him.

Thorough master of his own language, and passionately fond of the productions of the poets and authors of the new birth of Russian literature, he was likewise an accomplished Latin, English (which he spoke without the slightest foreign accent), French, German, and Italian scholar. He had studied Greek in youth, but did not retain any great love for it in manhood, although he spoke modern Greek. He was well versed in the classical works of England, France, and Germany, and his favorite authors seemed Horace—

whom he was never tired of citing—Schiller in German, and Byron in English, though he was quite apt in quotations from Shakespeare. The other languages which he spoke were Wallach, Bulgarian, Serb, Kirghiz, and I believe one or two other Central Asian dialects. In a select circle of private friends his conversation was animated, elegant, polished, and bright with flashes of ready humor. He was extremely frank in the expression of opinion, urging his point with incisive directness. In peculiarly military matters he had read a great deal; and while his headquarters were at Slivno during the Russian occupation of Bulgaria following the war, the walls of his private office were surrounded with bookcases filled with volumes all bearing on the art of war. He did most of his reading early in the morning, before receiving the members of his staff. A large proportion of his collection, I noticed, were in English and French, many of the former being records of British Indian campaigns, with at least half a dozen on the great American civil war.

One morning he related an incident which illustrates the extent of his reading and the advantages of accurate historical information to a soldier. In the war in Turkestan he was on the staff of General Kaufmann, and when the Russian expeditionary force swept down on Makhran it found opposed to it an overwhelming native army, numbering by more than ten to one that of the invaders, and occupying a strong position. This position he proceeded to illustrate by a rough diagram drawn on the table with the charred ends of the matches with which we had been lighting our cigarettes. The right flank of the enemy, he showed, was protected by the walled city of Makhran, its front was what seemed a wide grassy plain, while the left rested on a low range of stony hills. Scobelev, in surveying the position, was struck with its similarity to that described in the record of, I think, one of the Napier's Indian campaigns, though unfortunately I neglected to note down at the time the names of the book, author, and city referred to. Scobelev at once communicated to General Kaufmann his impression, and the latter General sententiously asked

him, "And what did Napier do?" Whereupon Scobelev gave an outline of the Anglo-Indian action; how at first the British troops delivered their attack in front and found themselves floundering in the grassy plain, which proved to be a treacherous swamp; how the British general had to retire for the night; how next morning he executed a flank movement and surprised, demoralized, and hopelessly crushed the huge native army, and captured both it and the city. At the close of Scobelev's recital, General Kaufmann quietly rejoined, "And that is exactly what we will do, except fall into the mistake of attacking in front, and to-night." With the concurrence of his chief, Scobelev organized his celebrated flanking movement with his cavalry, and, in combination with Kaufmann's attack on the left front of the enemy, they re-enacted Napier's feat, completely routed the immense native army, and captured Makhran. Among one hundred and fifty-eight cannon taken were two which had been previously seized from the Russians by the Khokandians, and a large number of exact replicas of excellent workmanship made by the natives. This ingenuity of the natives of Central Asia found its parallel in Afghanistan, where our own troops discovered native ordnance of admirable finish, modelled on the artillery presented to the Ameer Shere Ali by the British Government.

Scobelev's genius as a general has been acknowledged by the highest scientific military critics in his own country, in Germany, in France, and also in England, and it would be impertinent for me to speak of it. Apart from his Asian campaigns, of which I know nothing from personal experience, I may only point to his passage of the Balkans at Senova (which for skill and daring and success excelled any feat of arms performed during the Russo-Turkish War), to his rapid march on Adrianople, and the later encircling of Constantinople. Like all great commanders, Scobelev inspired in the officers and men under him the warmest attachment and devotion. To use an old phrase, "they would go through fire and water for him." It is difficult to define exactly to what peculiar attributes in the young general this was due. It was

perhaps to a combination of many great and lovable qualities. A general at twenty-eight; a conspicuous figure in every despatch from Central Asia; at thirty-four the victorious general of the most decisive battle of the great Bulgarian campaign; the leader of the Russian hosts on the historic capital of the traditional enemy of the Empire of the North; at thirty-five the commander of a *corps d'armée*—Scobelev was naturally the object of much jealous irritation on the part of the older generals in the service of the Czar. I remember him referring to this unpleasant state of matters, and stating that with him honors brought additional labor and greater weight of cares, and enforced the most unwearied vigilance against the slightest mistake. And knowing the enormous amount of work which he undertook and successfully accomplished, it is not a matter of surprise, though of grief, that he should have died of disease of the heart at thirty-nine.

With the officers of his own command he was frank and friendly, but he never lost his dignity or proper reserve even in moments when his natural genialty led him to unbend. His keen glance took in all the details of an action, and he never failed to note, commend, and reward any display of gallantry. The fall of a comrade, however humble, he sincerely mourned. Let me give one instance of this. A lad of about sixteen, of good family, ran away from school in St. Petersburg during the war and joined Scobelev as a volunteer at Plevna. He fought with great courage at the assault and capture of Plevna, and Scobelev promoted him to a company of the 32d Regiment. At the battle of Senova the boy led the attack on the central Turkish redoubt, escaped the hail of bullets only to be bayoneted as he gallantly showed the way to his men into the redoubt. Scobelev's words were, in afterward ordering a monument to be erected over the brave boy's grave—which he himself selected under the shadow of four beeches—"His was a brief but heroic life."

It has been well said that Scobelev had "an almost magic power of identifying himself on occasions with the humblest of his men." It was a proud day for a private to be selected for even

the slightest notice by the general, and, mayhap, to have his ears gently pulled—a favorite and peculiarly caressing habit of Scobelev's when he was in good humor. In a campaign he shared the privations and the food of the meanest soldier in the ranks, he shirked no hardship which his men were compelled to bear: if they were in want, no luxury was spread on his board. On their part, the men admired his intrepidity and his brilliant dash. Under such a nature even the faint-hearted became brave warriors. When, after a three days' struggle with the snows, the ravines, the precipices of the pass of Hemedli, during which guns, wagons, tents, even much ammunition had to be abandoned—Scobelev's tired column emerged on the valley of Tundza and came face to face with Vessel Pasha's army which had just victoriously driven back Radetsky's and Mirsky's columns—General Scobelev rode along the line, informing his men that there was no retreat; all that was left to them was death, glory, or—after a pause—shame. "Death or glory!" was the cry, with loud huzzas for their loved and devoted leader, and right nobly did they vindicate their choice. Many instances of his consummate courage and coolness in danger are already well known to readers in Western Europe. Let me add one or two. On the day before the assault on the Green Hill redoubt at Plevna, I was with him on a vine-covered ridge which commanded a view of the Turkish position. Scobelev was making preparations for the assault. He had from personal inspection made a plan of the surrounding ground, and was, quite in view of the enemy, making a series of sketches of the exact points and the ground leading to them which were to be the objects of attack by each of his battalions. The Turks opened fire: at first the shells were short, then they flew overhead, but suddenly two shrieked unpleasantly near. One burst within a few yards of where Scobelev was sitting on a camp stool, drawing, and he and his paper were covered with the friable soil of the vineyard. Without a word or a wince he simply shook the soil off the paper and finished the preparation of his plans, ordering his staff, when he observed that the fire

continued exact, to find cover under a sloping bank some twenty yards off. At the battle of Senova—and I refer to this engagement frequently because the details of it are almost wholly unknown in England—Scobelev, mounted on his white charger, went out alone to reconnoitre the Turkish position. Of course he was the mark for a pretty hot fusillade from both infantry and artillery. Suddenly a shell appeared to strike the ground right beneath his charger and exploded. Thousands thought his temerity had at last brought the death he seemed to court. But when the smoke cleared away the white charger was observed plunging gallantly onward, and his rider, unharmed, soon afterward rejoined his own troops. Scobelev told me that when the shell exploded he was almost suffocated with the sulphurous smoke, and that for a moment he actually believed his hour was come. The plunging of his horse, as it were, awoke him from the shock, and he was able to finish his survey unnerved. It would be wearisome to multiply instances of his escapes or of his daring.

As a disciplinarian he was firm and strict. No point was too minute to be overlooked. Scobelev's vedettes were never caught napping. His knowledge of the detail of military duty was universal—even to sounding all the bugle calls. An illustration of the discipline of his corps occurs to me. I had been talking with him of military breech-loaders and discussing the merits of various systems. Taking a "Berdan," with which the troops were latterly armed, from a soldier, he undid the breech and lock and explained the mechanism with the precision of a gunsmith. Returning the rifle to the soldier, he turned, and walking up to a sentry a few paces distant, he said, "Let me see your rifle"—extending his hand as he spoke. The man saluted and replied, "I cannot, your Excellency." "But I want to see if it is clean," persisted the general. "I cannot, your Excellency," again said the sentry, as firm as a rock. Scobelev smiled, pulled his ears, and walked on. I asked an explanation, whereupon he said that a rule of war with him was that no sentry on duty was on any account to give up possession of his arms

—not even to the Czar himself. "But," said I, "suppose the sentry had given up his rifle when you were seemingly so serious in asking it. What then?" "He would have been shot," quietly replied the general, "for disobedience to orders in time of war."

In many quarters in the course of the last few weeks it has been said that General Scobelev was the enemy of England. In no sense do I think was this a truthful description of the man. He was an ardent admirer of England and of English institutions, though he did not believe that the latter were adapted for his own country. It is true that before and after the signature of the Berlin Treaty he bluntly expressed his hatred of the policy of the Beaconsfield Government. This is his exact language as noted at the time. "Cannot you see how this policy should stir us so? For two years we have deluged this land (Bulgaria) with our blood. Our brothers are slain, our country has made enormous sacrifices, widows mourn, children weep, and fathers lament the loss of promising sons. All this we would have borne with the patience which God gives, had the full freedom which we had won for our brothers in race and religion, in language and faith, been accorded to them. But accursed diplomacy steps in and says, 'No; only the smaller half of them shall be free, and the greater number shall be again handed over to the tender mercies of the Turks.' You know yourself what the Turks have been, and are, and ever will be; and placing yourself in our position, would you not also be consumed with wrath that our sacrifices are to be in vain, and that the men over whose graves we are now treading should have died for nought?" More especially Scobelev, with many other influential Russians, complained bitterly of the clause in the Berlin Treaty providing for the garrisoning of the Balkans. Such a measure, it was declared, could only weaken the Bulgarian principality, and place Eastern Roumelia at the mercy of the military pashas. I believe that had the English Government persisted, in 1879, in demanding the literal fulfilment of this part of the treaty, war would have been declared once more by Russia.

And it is an open secret that the Russians were well prepared for it. The whole of the male population of Eastern Roumelia had been organized by General Scobelev into a well drilled, fairly equipped militia; while that of the principality of Bulgaria had been similarly organized by Prince Dondakoff Kotchakoff, governor of the principality previous to the election of Prince Alexander. And in view of such a contingency as a new war, General Scobelev had prepared the most elaborate plans of the campaign. He himself had ridden over almost every mile of Turkey from Constantinople to the Danube, had surveyed every position capable of defence or attack, and a new military map had been constructed. I have no doubt that the plan of the campaign, which embraced several volumes of sketches, is now in the archives of the Russian War Ministry ready for future eventualities.

Scobelev had no belief that Russia and England need necessarily come into hostile conflict in Asia. I was with him toward the close of the British campaign in Afghanistan, and, discussing the question, he frankly stated that Afghanistan was without the sphere of Russian conquest, which he recognized was confined to the northern division of the great continent of Asia, and did not extend to India. "But," he added, "had Russian ambition stretched toward Hindostan, the invasion of Afghanistan under the Beaconsfield and Lytton administrations, and the proceedings which followed thereupon, was a policy than which a better could not have been devised to subserve supposed Russian views. It would throw the Afghans into the arms of Russia." As a soldier, he admired the conduct of the Afghan campaign.

He seldom spoke on what may be termed the home politics of Russia. In a sense he might be said to have been a staunch Imperialist. In other words, he seemed to think that the genius of the Slav race was adapted for what my friend Professor Lorimer, in his "Institutes of International Law," has called the "delegation of power" as contradistinguished from constitutional methods of government. For the development of Russia he looked to the



growth of a purely Slavonic civilization based on Slavonic ideas, and it was this sentiment which led to his hatred of and by a certain section of German politicians. These latter, through their organs and the press, have unblushingly rejoiced over the death of General Scobelev, as the removal of a living force which would have excited not only Russia, but the Slavonic world generally, to fight against "Germany and that civilization which Russia can only get from the West."

Panslavism, as understood by Scobelev and by thousands more of the enlightened sons of Russia, means the principle of nationality. And why in the name of equity should not there be a legitimate Slavonic ideal, if it be right and proper that there should be a Teutonic ideal, a Gallic ideal, and even an Anglo-Saxon ideal? And it is an historic fact that much of the trouble in Russia during the past two hundred years is due to the attempted enforcement of Germanic ideas of civilization upon an unwilling Slavonic people. Scobelev was only giving utterance to the sentiments of the majority of the Russian nation and of the Slavonic race when he said at Paris, "If Russia does not always show herself equal to her patriotic ideas in general, and to her Slav rôle in particular, it is because both within and without she is held in check by a foreign influence. We are not at home in our own house. The foreigner is everywhere and his hand in everything. We are the dupes of his policy, victims of his intrigues, the slaves of his power."

Prévost Paradol, in one of his famous orations, said that "France and Germany were like two locomotives on the same line of rails, going at full speed in opposite directions, and bound to collide at some point." History proved the

truth of his forecast. And it needs but little prescience to assent to Scobelev's prediction that "a struggle between the Slav and the Teuton is inevitable; and it will be long, sanguinary, and terrible;" though we may somewhat doubt his patriotic self-assurance, "that the Slav will triumph."

Scobelev's equally famous speech at Warsaw expressed not a new sentiment, but was simply an echo of a proposal made in the sixteenth century by a sovereign of Poland. "I wish," said Scobelev, "the best to the Poles, and sincerely desire that they may form one body with us, as Servia and Bulgaria should do. Are we not all brethren?" About 1580, Stephan Bathory, King of Poland, thus addressed the Russian ambassador to his court: "Let us abandon vain quarrels. Are we not brothers? What matters some slight differences in religious belief? Why should we not have the same flag, the same chief?" Panslavism is, therefore, not a thing of this day, and Scobelev knew it; he only wished to give it vitality. So far as I could judge from the conversations I had with him, Scobelev's ideal future for the Slavonic race appeared to be—

- (1) The federal union of the different Slav states under a democratic-imperialistic government; and
- (2) that this democratic-imperialistic government in each of the states should be based and developed on the lines of the Mir—the Russian system of communal peasant proprietary—which seems to be approved by, and adapted for, the genius of the Slav people. Into whatever form his opinions may have ripened it is needless here to speculate. His eloquent voice shall be no more heard forever; his sword is sheathed in the tomb. *Requiescat in pace.*—*Fortnightly Review.*

## NO FICTION.

BY J. G. P.

THE Editor is in possession of the name of the author of the following singular narrative, and of the place at which it happened, and has every reason to be satisfied of the entire *bona fides* of the writer, a clergyman of the Church of England.

EARLY in January, 1879, clerical duty called me into the north-west of England. In the midst of a heavy fall of snow, my family and I took possession of the official residence provided for us.

It was an old stone house of one story; roofed, in part with ancient stone slabs, in part with modern slates; and standing in a garden bare of trees. A wide passage ran back from the entrance toward the kitchen, where there were two doors; the one leading into the yard, the other into the larder, which was, in fact, a roomy cellar at the foot of a flight of very old stone steps. The five bedrooms all opened on a square landing.

"How about the roof?" I asked of the man in charge.

"All right, sir; everything has been carefully seen to; and, when the thaw comes, I'll warrant you'll not be troubled, anything to matter."

In a few days we had shaken down; and the verdict on our new home was, "Not grand, but decidedly cozy."

A tall, solid, fleshy, rosy young woman had undertaken to be our one servant. Sparing of words was she, but not sparing of work.

"The incarnation of stupidity and stolidity," said my son Primus.

"The very thing for us," said his mother.

This girl's name being Stillwell, soon became corrupted into Stillwater; or, for short, Still.

It was splendid skating weather. The low-lying meadows were flooded to the depth of a foot or more, and one glided along over acres of smooth, green, transparent ice. Every day we sallied forth, my three boys, their sister and I, to take our fill of enjoyment in this icy paradise; coming back to bask all the evening before the bright golden sunshine and the silvery ashes of a north-country coal fire.

My wife has the weak habit of going to "tuck up" her boys after they are in

bed. One night, their voices sounded so angry, that she ran up in haste, to see what was wrong. On entering their room, she found the two elder boys sitting up in bed, hurling injurious and derisive epithets at some person or persons unknown.

"Let me just find out who you are, and you'll get such a jolly good licking as you'll remember," announced Primus, gazing wrathfully at the ceiling.

"Oh, you blooming idiot! I wish I'd your boots. I'd throw them at your head. Be off! I'm taking a sight at you," shouted Secundus, nose and fingers upturned in the same direction.

"Are you both mad?" inquired the stern, maternal voice.

"It's that fellow, mother, that I told you about. He's on the roof again. Just listen to the row he makes."

"Nonsense," said his mother; but she stood listening for some time.

"Oh, you coward!"

"Ah, you funk!" proceeded from the two beds. Not a sound above.

"I have heard no row on the roof," remarked mother, with dignified emphasis; and, having performed the usual ceremony, she departed; and came and told me of the whole affair, concluding with, "I wonder if it can be rats."

"Not a doubt of it."

Next morning the boys were full of their nocturnal visitor; and declared that, no sooner had the drawing-room door shut, than the scrambling and trampling began again.

"History tells of a certain cat who wore top boots; but I never heard of rats adopting the fashion," I remarked.

"Rats, father! why we know the sound of *them* well enough. And they run between the ceiling and the roof. But this is unmistakable boots, with plenty of hobnails in them too, on the outside of the roof. We expected every moment to see the fellow's legs come through plaster and all. I think I may be permitted to speak with au-

thority on the subject of boots and roofs in conjunction."

He certainly might, for he had perambulated the roofs of all the out-houses at S——, to the great detriment of tiles and slates.

"Well, then," continued Primus, with the air of an adept, "I am so sure it was a boy of my size in hobnailed boots, that I feel as if I had seen them. I could swear to them."

"Come out and have a look," was my reply.

There lay the white mantle, smooth and glistening in the sunshine, and untrodden by so much as the foot of a tomatcat.

The boys looked at each other in amazement. "I don't care," said Secundus, defiantly, "I shall always believe it was a boy."

"It's the rummest thing I ever knew," slowly remarked Primus.

"If Boots comes again, the only thing you have to do is to wish him a good-night, and to cover up your ears," was my recommendation.

That evening, just as we were about to begin prayers, we were all startled by some tremendous blows on the cellar door. My wife, thinking there must be some one at the back door, told Stillwater to go and see who could be knocking in that outrageous way.

The girl did not stir. After a moment, she said, "It's the cellar door."

"Impossible!" said her mistress, "go quickly and see what it is."

We heard the unlocking and relocking of the yard door. When the girl came back, she said there was no one there. Presently, while I was reading, there came more loud blows, as if struck by a heavy fist; and unmistakably against the cellar door.

When prayers were ended, we went to make acquaintance with our mysterious captive. On opening the door, there was nothing to be seen but the flight of steps.

My wife and I exchanged glances which said very plainly, "A sweetheart." So, as the youth appeared shy, I gave him an encouraging invitation to come forth and show himself. No reply.

"I am determined to know who you

are," said I, nobly plunging into the abyss, the boys at my heels. Nothing whatever to be seen, and not a corner in which anything bigger than a mouse could hide. The window? It was tightly closed up for the winter, and was, besides, blocked with snow. I was certainly mystified; but I sent the young ones off to bed with an assurance that wind, in an old house, was capable of making the most extraordinary noises; and, in illustration, we all in turn shook the door; not, however, producing anything like the previous effect.

"It *must* have been at the back door," said my wife, with a searching look at Stillwater.

"No; it's the cellar-door that does it," quietly replied the girl.

"How can it make that noise of itself?"

"I don't know."

"Did you ever hear it before?"

"Yes; this evening, when Miss was at the piano."

We decided that we must watch Stillwater.

In the course of the night we were awoken by the agreeable sound of "Drip, drip, drip," in one corner of the room. My wife put a basin beneath, with a towel in it, to deaden the sound. Presently "Drip, drip," again, just outside the door, which we always kept open.

"There's a sudden thaw, and we're in for it," said I. "Let's go to sleep. It won't hurt the floor-cloth."

But there was no going to sleep; for the drip came faster than ever, until it increased to a little stream. There were no matches in the room; but I managed to find my bath, and to set it, with a blanket inside it, under the spot whence the sound came.

When, at breakfast, I announced the sad news of the sudden thaw, there was a chorus of exclamations, "Why! everything is as hard as iron," etc., etc.

The mother, meanwhile, was directing her handmaiden to dry up the water which had come in during the night. The girl stared. When she came into the room again, her mistress asked her what she had done with the wet blanket. She stared more expressively, and was mute.

"Don't you understand?"

"Yes, ma'am. But there is no wet blanket, and no water to wipe up."

Up stairs went mistress and servant; and, in two minutes, back came my wife, looking quite bewildered.

"There's not a trace of water anywhere," said she; "and yet, after you were asleep, I heard it drip fast upon the counterpane, just at my feet."

Our delighted offspring settled it that mother had been dreaming; and Primus irreverently hinted that I had generously lent my bath in order to escape my morning's shudder.

When Tertius was being tucked up that night, he asked, "Who was that—person who came and looked at me after I was in bed?"

"Stillwater, I suppose."

"Oh, no. It was an old woman, and she had a funny cap on."

"You dreamed her, dear."

"But I hadn't been to sleep. And I turned my head to the wall, and when I looked for her again she had gone away."

"You must have been half-asleep. Now go to sleep quite, and finish the dream."

The next night Primus began—

"Mother, I wish you would tell that old party not to come into my room without knocking. I had just got into bed, happened to glance across to the drawers, and there she stood, coolly looking at me. I was disgusted, and turned my back upon her. Presently, I looked out of the tail of my eye, to see what she was doing, but she'd cut."

"You don't know who it was?"

"No. She looked like one of the charwomen—Boots's mother, I dare say. These people are cool enough for anything."

My wife called to Stillwater, to ask if Mrs. Brown or Mrs. Jones had been in that evening. She was answered that no one had been.

"Then you must have been half-asleep, although you did not know it, and have dreamed."

"Yes, I suppose so. But it seemed very real. At any rate, I'm half-asleep now," murmured Primus.

Night after night we were roused by the voice of this or that child. Their mother always went to them, and always found them sleeping peacefully; though,

a minute before, there had been sobbing and moaning. It was bitterly cold, and I persuaded her not to go at the first call. Then there was whimpering on the stairs.

One night, we had both been lying awake for some time, listening to what seemed like cautious steps, first on the landing, and then in our room itself. We had tried to persuade ourselves that it might be mice. But no; there were distinct steps, as of a person walking. Yet, though we followed the sound with our eyes, we saw nothing. Suddenly there was a howl of anguish, like the cry of a large animal in pain. It thrilled us with horror, for it came from our daughter's room, though it was not possible for it to be their voices. When we reached their bedside, they were calmly sleeping; and were not even roused by our entrance with the light. I made quiet observations next day, both inside and outside of the house.

"If you please, ma'am, may I have my sister to sleep with me?" said Stillwater to her mistress.

"Are you afraid to sleep alone?"

"No, I'm not afraid."

"Then why do you wish it?"

No answer; only a very earnest look.

"Why! Stillwell, you look as if you had seen a ghost," said her mistress, laughingly.

"Yes, ma'am, I have," she replied, very quietly.

"And what did it look like?"

"Like Mrs. X—, just as she was of afternoons."

"Come, come! she ought to have been all in white, you know."

"No, she was not in white. She had on the same sort of cap she always wore, and the same dress and white apron."

"I hope you asked her what she wanted."

"No, ma'am; I lay still and looked at her; and then I sat up and looked at her hard; and presently I could not see her."

"It was no doubt a dream, and you will probably never have such another."

"No, I am sure it was not a dream. Besides, I have seen her twice before, when I was walking about."

"Out of doors?"



"No, ma'am; in the house. One afternoon, toward dusk, she came and looked at me through the window. I wondered how she could be there, and I looked at her for a good little time."

"And then?"

"And then she was not there. And I went to the window and looked out, but she was gone."

"What was the use of going to the window, when you knew she was dead?"

"I don't know. She looked just as if she was alive. The other time, I was kneeling down on the rug, making your fire burn up. She passed straight before me."

"Oh, nonsense! She would have set fire to her clothes."

Still looked injured, but quietly persisted—

"She did, ma'am. She passed straight between me and the fire."

"How could she do that? Really, Still, for a sensible young woman, you are very full of fancies."

"It was not a fancy, either of the times, ma'am. I did see her, I did, indeed. I hope you will believe me."

"Yes; I quite believe that you *think* you saw Mrs. X—. You may have your sister to sleep with you."

Now it is not a pleasant thing for any man, still less for one of my profession, to confess that he has felt "creepy" on account of certain inexplicable sounds. But, as this is a perfectly true account, I am compelled to acknowledge that it happened to me again and again, during the time of my dwelling in the Old Lodge. And I also declare that my wife and I were perfectly well in health, and that we had never before been the victims of similar terrors. Furthermore: though we spoke of the noises, we, at first, abstained from mentioning our sensations to each other.

After an hour's sleep, I would be aroused, as if at the command of some person, unseen indeed, but certainly in the room. Then a small something, say a marble, would be gently dropped, more than once, on the carpet, close at my bedside; sometimes on the floor-cloth, just outside the open door. Then the marble would be gently rolled on the boards of the room, and up against the skirting board.

It was an immense relief when, one

night, we encountered each other's eyes as we lay listening, and both made a clean breast of our terrors. Yes, nothing short of that word will do. We agreed that the first sufferer should wake the other. But my wife found it not always possible to carry out this determination. "What did you hear?" I asked her once.

"The chest of drawers was dragged over the floor," she replied. "I am thankful you spoke to me, for I have for some time been trying to wake you, but was not allowed. In fact, I have been kept perfectly motionless."

I had heard precisely the same sound, yet the drawers did not appear to have been actually moved. The sounds were so distinct that we always connected them with some special article. Now, it was a chair, or the towel-horse, that was moved. Now, it was the loud snapping of a thick stick in the hall. Now, it was a violent blow on the hall table, struck as if with my own walking-stick, which I remembered to have left there, and which I found there in the morning. Once, the heaviest book on my writing-table appeared to be dropped, as if from the height of a man, on the floor-cloth in the hall. Then a smaller one. I always myself shut the doors of the rooms leading into the hall.

Of course, I tried in every way to account for the mystery; but, after a time, I could only resign myself to lie awake and wonder. The nights were bitterly cold. On one occasion, when there had been a persistent dropping of nuts in a corner of the room, I jumped up, in desperation, and held the light close to the spot. In a second, the sound was behind me. I whisked round, but—tapping to right of me, tapping to left of me, tapping in every direction, without a second's intermission. No sooner did I look toward one spot than the dropping of nuts was at the other end of the room. It was as if some mischievous elf were enjoying himself at my expense.

Our boys had gone to spend a day or two with some friends; and their mother, not liking the look of the empty room, had closed the door in passing; giving it a push, to make sure that it was fast. That night, we heard the

door shut with a tremendous bang. Even had it been left open, there was no wind to move it.

Another night, when we had been awoke in the usual way, there was an agreeable variety in the entertainment. A delicate, flute-like sound proceeded from the closed dining-room. Again and again, a distinct and long-sustained musical note, as of some small pipe. Then the fifth of that note, then the octave, repeated many times; then the seventh and octave, over and over again. We were greatly puzzled. The piano was not in that room. And the sound certainly suggested a wind instrument of sweet tone.

I went down early next morning, and found, to my surprise, a concertina lying on a table. I lifted the handle, and there came forth a long-drawn note, the very note I had heard in the night. My wife called out to me from up stairs, "That's it! that's it! What is it?"

Without attempting to disentangle her speech, I held up the concertina.

"Oh! that is Phil's. He must have left it behind. But it was the very note; there is no doubt of it."

We locked the thing up in its box, and put it inside a bookcase; and next night we were treated to a repetition of the musical notes, only muffled.

It was not only during the night that the noises were heard. For instance: I was reading by the fading afternoon light, when a chair on the other side of the room seemed to be moved from its place, so that I instinctively turned my head to see who had entered the room. Again, I was about to go down the cellar steps, in the afternoon, when I heard a heavy pickling pan dragged along the stone floor below. I quite thought some one was down there; but, as usual, there was no one to be seen, and the pan was in its place.

At eleven o'clock A.M., my wife and Still were on the landing. The girl was telling her mistress that she had heard Mrs. X——'s voice the evening before. Her mistress told her that she was giving way to fancies.

"But Mary Jones heard it too. She

had just brought in the eggs, and stood listening to the singing in the drawing-room. Then I heard Mrs. X——'s angry voice again, on the stairs, and Mary said, 'Who's shouting?' I said I didn't know, and she said, 'It must be the missis. Lor! how angry she is to holler like that. Doesn't she like 'em to sing?'"

"In an old house like this," began my wife, "there may be many noises caused by—"

Suddenly, a noise, as if a shower of small pieces of the ceiling came down sharply on the floor-cloth, caused mistress and maid to start back in affright, and involuntarily to look up. There was not a crack to be seen. Then the two pairs of eyes searched the floor in every direction, their owners cautiously standing within the shelter of two doorways. Not a morsel of any kind could they discover.

"What was that, ma'am?" inquired Stillwater, fixing her sleepy gaze on her mistress.

"I cannot tell," was the only reply that occurred to that intelligent lady.

One morning the post brought me orders to "move on." Instead of grumbling, I hailed them with delight. For we seldom got a decent night's rest, and my wife's nerves were beginning to be weakened by the constant strain upon them.

The Old Lodge had been for years in the charge of Mrs. X——, who had borne the character of highly respectable old lady, with the drawbacks of being somewhat misanthropical and very avaricious.

I am perfectly aware of the ridicule with which stories of this nature are generally received. I can only repeat that I have related an absolutely true experience, for which I am utterly unable to account. I have no theory on the subject. I have always felt a strong distaste for so-called Spiritualism. I perceive the inconsequence and even childishness of my story; and yet it will always remain, to the story-teller, a serious Fact.—*Macmillan's Magazine.*

## THE VEGETARIAN ANIMALCULES OF THE DEEP SEA.

PROFESSOR MOSELEY, of Oxford, who delivered before the British Association, on Monday night, a most interesting and amusing account of some of the features of deep-sea life, introduced, probably for the first time to a great multitude of his auditors and readers, those remarkable little protozoa which carry their kitchen-gardens about incorporated in their own persons, and contrive, as it were, to feed, out of their own waste tissues, the plants on which they themselves feed in return. In fact, a mutual-benefit society appears to be arranged between the animals and plants, with a continuous division of profits always going on. This is Professor Moseley's account of the partnership: "Certain animals have embedded in their tissues numbers of unicellular algæ, which are not to be regarded as parasites, but which thrive in the waste products of the animal, while the animal feeds upon the products elaborated by the algæ. This combined condition of existence has been named by Dr. Brandt 'Symbiosis.'" [a vile word, Dr. Brandt! Why not call it "Compound-life," at once?] "The animals in which it is most abundantly exhibited are the radiolarians, jelly-like protozoa, which have numerous bright, yellow cells embedded in their tissues, the unicellular algæ in question. These radiolarians are exclusively pelagic and enormously abundant, and having been discovered to be endowed with their own vegetable supply, are self-supporting, as it were, and constitute an immense additional ultimate source of pelagic food." This is as though a cow were furnished with little strips of verdant meadow on her own hide, so conveniently arranged that while they grew out of her, she could yet graze off them. Such a self-supporting cow would be regarded with envy by the dairy-man, and it is difficult to see how, on the theory of natural selection alone, animalcules thus delightfully provided with a commissariat to which they were necessary, and which was necessary to them, should ever move on in the direction of any kind of evolution at all. With meal and appetite so ingeniously

combined, the meal satisfying the appetite, and the appetite providing the materials for the growth of a future meal, it would seem that nothing further could be done in the way of "co-ordinating the organization with the environment"—which is, we believe, the best-approved philosophical way of expressing the adaptation of wants to the external objects which satisfy the wants, and of the qualities of external objects to the wants which they supply. And yet it seems to be obvious that these remarkable protozoa, though among the best fed and best provided of nature's vegetarians, are also among the least advanced forms of animal life. It seems that those who prefer to talk of nature rather than of mind as the ultimate cause of things, must confess that nature is dissatisfied with this very ingenious device of combining in one the kitchen-garden and the owner of the kitchen-garden, and takes a great deal more pains to develop those forms of life which have to go in search of their food and to run the risk of failing to find it, than she takes to develop the form of life in which she had made most careful provision for indolence and ease. One would have supposed *a priori* that an animal provided with its own commissariat, from which it could not be severed, would have such an enormous advantage in the conflict for existence with other animals liable to starvation, that that form would soon multiply to the complete extinction of all others; and that development, if development there were, would take the line of evolving a higher and more elaborate partnership between the vegetable and the animal for mutual benefit. That, however, is certainly not the case, much as the Vegetarian Society might wish that it had been one among the great achievements of natural selection. Indeed, self-sufficiency is one of the devices of nature which seems to be provided for only to be rejected in favor of a more complete dependence on distant and comparatively doubtful resources. All the great naturalists tell us that the plants which fertilize themselves are poor in comparison with the plants fer-

tilized from the pollen of other individuals of the same species. Self-sufficiency, so far from conferring an advantage on the life which can boast of it, appears to be brought into existence only for the sake of marking the disadvantage at which it compares with those more generous forms of life which are at once precarious and more elaborate and rich. The efforts of self-sufficiency which nature makes in the lower stages of her production, she seems to make only to brand with a sort of bad mark, as indicative of a poor kind of experiment, easy to achieve, but achieved only to be abandoned. And the fault in this self-sufficiency seems to be precisely its hide-bound character, the absence of all provision for variety of vital elements, for the concurrence of different forms of experience, for the stimulus of need, for the sting of want. Those forms of life which have in them the elements of narrow completeness, seem always to be inert forms, condemned to comparative sterility. The animalcules which are half kitchen-garden, and the kitchen-gardens which are half animalcules, are very dead-alive affairs, without any go-aheadness in them. They are, indeed, in this respect very like village communities which strenuously resist the invasion of the rest of the world, or insular-minded races which brand all "dependence on the foreigner" as a sort of slur upon their dignity and safety. If the maxim "Nothing venture, nothing have," is applicable to the tempers of men, it is still more applicable, apparently, to the providence of nature. The organizations—both vegetable and animal—which show most capacities for development are the organizations which are matured and sharpened by running the gauntlet against all sorts of possible failures. Many of them, no doubt, succumb to the results of failure, but the descendants of those which do not, are improved in the next generation by their parentage from the best specimens of the species; and so "natural selection" elaborates a higher form out of the sifting process to which the lower forms have been submitted. That the self-sufficient forms of organization do not admit of this sifting, is the very

reason why they remain stamped with the brand of unprogressiveness.

So far, we suppose, we have been accepting and enunciating what would be called approved Darwinian principles. But now, let us ask to what we ought to ascribe this apparent restlessness in nature, which seems so discontented with the self-sufficient forms of life that they are only invented to be left on the lowest platform of existence, as a kind of warning against the principle of self-sufficiency itself? Apart from mind and plan, apart from a purpose that transcends all these hide-bound self-sufficiencies, there seems no reason at all why the self-sufficient forms of life should not have had it all their own way, and filled the world with stagnant, inert, unprogressive forms of life. And if, on the other hand, evolution were purely mechanical and automatic, why do self-sufficient species—like those protozoa with vegetable streaks in them—which seem to require no revolution and admit of no evolution, exist at all? If self-sufficiency is once produced in nature, why is it superseded, unless there be in the very heart of the cause which produced it a purpose of superseding it, and of exhibiting it as the lowest possible stage of finite life? Self-sufficiency certainly does not seem in any way suited to be even a link in an ever-extending chain. On the contrary, it seems suited at best to be the final link in the chain, if it be a link at all, and not rather an armor-plated whole, inaccessible to almost all external influence. That the plan of the universe should include self-sufficient creatures, and self-sufficient creatures branded as vastly inferior to creatures dependent on all sorts of risks and chances, is surely a most significant hint to us, as to how the plan of the universe ought to be interpreted. This apparent impatience of nature—if we are to use that non-committal term—of the self-sufficiency which she had herself produced and exhibited to us, is surely an impatience which cannot in any sense be disjoined from foresight and purpose. This goad which drives on the development of life to higher forms, forms of more elaborate dependence on other forms, forms that imply correlation with what is dis-



tant and dubious and sometimes even difficult of access, it is surely impossible to ascribe to a blind and automatic force. If there were to be life at all, why should not the seas be full of these half-vegetable animalcules, which are self-supporting, and suggest nothing beyond themselves? And if there were to be development alone, why is this apparent break in the chain, this type of inert self-sufficiency, presented to our eyes, as one of the very lowest forms of ingenious adaptation, and yet not a rung in the ladder of progressive evolution? This curious self-supporting compound of vegetable and animal life, seems to us a sign written in the very

structure of the universe to warn us that the cause of evolution had not overlooked the possibility of self-sufficiency in nature, and had produced relatively very complete forms of self-supporting organizations, but had stamped them at the same time as unprogressive and inert, and incapable of that higher organization which depends on stimulus and effort for its movement, on danger and conflict for its sifting, and on the capacity for being crossed with different strains of the same type of organization, for its expansion into richer and nobler examples of the same species or race.—*London Spectator.*

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IN OCTOBER.

BY SUSAN K. PHILLIPS.

I SAW the sunlight glinting down,  
Where the tall trees stood gaunt and browr.

I saw the soft pathetic light  
Touch the stream's foam to glistening white.

I saw the tearful lustre shed,  
Where falling leaves heaped gold and red.

I heard the music that they make—  
The becks that brattle through the brake,

And toss the withered fern-fronds by,  
And laugh beneath the sombre sky.

I heard the river's ceaseless song,  
Sweeping fir-crested hills among.

The chirpings of each lingering bird  
That braves the angry North, I heard.

And a fresh yearning woke and cried,  
A voice of Love unsatisfied;

And all the lovely Autumn day,  
In burning tears seemed blurred away.

To wood and glen, to hill and plain,  
For Nature's balm I asked in vain.

Then I said, low and suddenly,  
"God keep my darling safe for me."

*Macmillan's Magazine.*

## LITERARY NOTICES.

THE GREAT EPICS OF MEDIEVAL GERMANY.  
An Outline of their Contents and History.  
By George Theodore Dippold, Professor at  
Boston University and Wellesley College.  
Boston: Roberts Brothers.

This is a commendable effort to popularize the literature of a period which is too little known even to those who may justly boast of the extent of their literary researches in the three great languages of Europe. The period of the middle ages was called by the poet Uhland, the night of a thousand years, yet a night that was illuminated by brilliant stars. It is with the task of pointing out these bright, though distant stars that Professor Dippold has busied himself, and it is to be hoped that his success will be proportionate to the conscientious thoroughness with which he has performed his work. He is an enthusiastic admirer of the old romantic poetry, and something of the loving earnestness with which he discusses his subject cannot fail to be communicated to the reader. Although the poems described are German, his discussion and description are by no means limited to this field, but extend to the early poetry of many other parts of Europe. He has given, for example, the best brief account we have seen of the manner in which the Arthurian legends travelled from Wales through England into France, and thence throughout the continent, mingling finally with the German heroic tales and forming the material for some of the best of the later epics. The Anglo-Saxon epic *Beowulf* is also described with considerable fullness, and the literature of the Eddas receives an extended notice in connection with the inquiry concerning the sources of the *Nibelungen Lied*.

Within the limits of his plan, the author claims to have given the subject more thorough treatment than it has hitherto received in any work published in this country or in England. His method is to give an outline of the action of each poem, frequently introducing metrical translations of important passages, and then an account of the historical and mythical sources of the poem, the minor poems closely associated with it, and the translations into the modern languages, if any exist. The poems thus treated are the *Nibelungen Lied*, *Gudrun*, *Parzival*, *Tristan*, and *Isold*, and *Iwein*. Incidentally many shorter poems come in for brief description, and the *Nibelung drama "Brunhild"* is allowed special space. The author's complete translation of this tragic drama, published about three years ago, is already favorably known. An introductory chapter contains a summary of the

scanty knowledge that is available concerning German literature before the tenth century, and an explanation of early German versification. The slight touch of extravagance observable in the first pages of the Introduction is not in keeping with the author's usual modest and simple style. That "memorable and interesting scene" which was enacted, according to the author, "nearly four thousand years ago" on the plains of Iran, namely, "the commencement of the parting scene of a great brotherhood of nations," is a difficult subject to write upon with historic precision; and, again, it is at best but an open question whether the "noblest treasures which these nations carried with them into their new abodes, were the songs that had resounded in the green forests and in the wide stretched pasture-grounds of their former common home." In general, however, this volume deserves nothing but the highest praise. It will be found an excellent guide for the student of this period, and for those unacquainted with old German it furnishes just that information which is calculated to inspire interest and stimulate new efforts toward the acquirement of the language in order to enjoy the full beauty of this quaint old poetry.

CHRIST'S CHRISTIANITY. BEING THE PRECEPTS AND DOCTRINES RECORDED IN MATTHEW, MARK, LUKE, AND JOHN, AS TAUGHT BY JESUS CHRIST. Analyzed and Arranged according to Subjects by Albert H. Walker, of the Hartford Bar. New York: Henry Holt & Co.

A misconception is liable to arise in the minds of many, on reading the title page of Mr. Walker's book, as to the real purpose to be subserved by such a compilation, for there is, of course, a permanent presumption against any rearrangement or rewriting of the gospel narratives. The work is intended in no way to displace the established version, but simply to set forth in compendious form the body of Christ's teachings, separated from the history of the events with which they are associated. For the general purposes of instruction the narrative form, to which we have always been accustomed, is unquestionably the best, and indeed is a form so perfect as to be well regarded as in itself furnishing an evidence of the inspired knowledge of the four great writers. But, on the other hand, there is an undoubted advantage to be gained, especially for purposes of study, in gathering into a single paragraph or section all of Christ's sayings upon any one subject. None of these are recorded by all four of the evan-

gelists, and his complete instruction upon many subjects can only be obtained by the awkward assistance of a concordance. Moreover a systematic arrangement, as Mr. Walker suggests, is better adapted to give clearness and precision to opinions. "By putting his germane sayings together, such an arrangement makes Christ his own interpreter. What it loses in movement, it gains in fullness and certainty. What it loses in attractiveness of color, it gains in symmetry of form." The plan of the book has been very carefully executed, and it will be especially useful to clergymen in the preparation of sermons and to those who would make their private studies thorough. A chapter is given to each important subject, such as "The Holy Spirit," "Prophecy," "The New Birth," "Heaven," and "Commandments;" and each chapter is divided into sections, according to the topics naturally arising under each subject. The passages are copied in the exact language of Scripture, the Revised Version being used, with the exception of an occasional omission of a conjunction in cases where the passage refers to two distinct subjects. The source of each passage is indicated by foot-notes. A brief extract will illustrate the author's method. The first chapter is entitled "God," and the first section is upon "God's Being" and reads as follows: "The Lord our God, the Lord is one. God is a spirit: and they that worship him must worship in spirit and truth. Why call-est thou me good? none is good save one, even God. The Father is greater than I." This passage is composed of four distinct quotations, from three of the gospels, as indicated by the foot-notes.

APPLETON'S HOME BOOKS.—Home Occupations, by Janet E. Ruutz-Rees; The Home Needle, by Ella Rodman Church. New York: D. Appleton & Co.

This admirable series of little hand-books, devoted to the interests of the household, needs no fresh commendation, for the interest and usefulness of its several dainty volumes have become already well known. The family life of every home into which they find an entrance must thereby be made better, happier and nobler. These two latest volumes of the series fully maintain the reputation of the eight that have preceded them. The object of the first is to furnish practical suggestions about a number of simple occupations suitable for boys and girls, which may be made both interesting and profitable. The older members of the family will also find valuable hints for the employment of their leisure moments, and with a little patient

practice they may, at a trifling expense, fill many a nook and corner with articles of beauty and usefulness. The titles of some of the chapters will sufficiently indicate the extent and variety of the suggestive contents; for example, "What can be done with Leather," "The possibilities of Tissue-Paper," chiefly in making flowers, "Modelling in Wax," "The Preservation of Flowers, Grasses, and Sea-weeds," "What can be done with Beads," and "The Uses of Card-board." There are also chapters on "Frame-making," "Spatter-work," "Scrap-books," "Amateur Photography," and "Collecting." In the last will be found many delightful things for those who already have some "hobby" for making collections. A final chapter contains directions for a number of minor occupations, such as rustic-work, straw-plaiting, shell-work, stenciling and decorating simple articles in oil and water colors.

The author of the second of these volumes suggests that books on embroidery and fancy-work of all kinds are already numerous, but that the humbler occupations of plain sewing and useful needle-work have been generally neglected. It is, therefore, her purpose to furnish hints and instruction for "those who desire a practical knowledge of plain sewing, millinery, and dress-making." Numerous diagrams and illustrations aid materially in following the directions contained in the text.

ART AND NATURE IN ITALY. By Eugene Benson. Boston: Roberts Brothers.

There is a delightful freshness in this little book of travel, for the author, wisely turning aside from the beaten guide-book paths and following his artistic instincts, has found in some of the remote nooks and corners of Italy treasures that have for us all the interest of an original discovery. The pleasure of a day's wandering with him among the Venetian Alps is like the stimulus one gets from a walk with an artist friend; for the artist is poet and scientist combined, observing the minutest details of surrounding objects, and converting them into poetry. He searches with the zeal of a student for relics of the great masters, and points out their faded foot-prints in many unfrequented spots. Some peasant village, hidden away among the mountain cliffs, whose simple people know only in dreams of the great world around them, is found to be wealthy—far wealthier, it may be, than a modern town with its steam-pipes and daily newspaper—because above the altar in the little church there is a painting by Carpaccio, or some one of the great Titian's followers, painted centuries ago, in the morning of Christian art.

He seeks too for the inspirations and the origins of the great painters' works. He studies the scenery about Raphael's birthplace, to catch if possible the outlines of those thin-drawn landscape backgrounds. "Titian's country," the scenes that inspired Giorgione's genius, and the home of the famous majolica painters are all described in a brief and sketchy, but highly interesting and suggestive manner. Some of the chapters have the finished neatness of essays; especially good are chapters entitled "Ferrara at Dawn," "Perugia," "Bellini and Pesaro," and "Majolica in Italy." A description of the celebration of St. Peter's day gives a vivid picture of Rome in mid-summer, a time when few foreigners venture to remain to fill their portfolio and note-book. The book ends with a beautiful description of a ride out from Rome across the campagna just at night, when the golden and silver light of east and west are mingling, and the Italian air is filled with charm and mystery.

CUPID. A STORY. By Augustus M. Swift.  
New York: Charles Scribner's Sons.

An hour may be pleasantly spent in reading this rather singular little story. It is a curiosity, and not the least curious thing about it is the enigmatical title. One is almost inclined to regard it as a kind of literary joke, perpetrated upon the habitual story reader in pure sport; but then, the author's name upon the title page is an assurance of seriousness and good faith. Eliot Blake, a young Englishman, who has spent his life in hawking and fishing, is a confirmed opium-eater, whose regular dose has become "just about equal to De Quincey's in his period of greatest indulgence." The subtle drug is rapidly devouring him, and he realizes his nearness to the mad house and its attendant horrors, but is not able to resist the terrible habit. Love becomes his physician and effects a cure which was beyond the power of mere medical skill. He meets a fascinating American lady and determines to win her for his wife, and the strength of this absorbing passion furnishes the needed support for his flagging will. The struggle with his old enemy is a hard one, but he triumphs at last and obtains the reward of accepted love. This mixture of love-making and opium-eating is described in brief letters to and from the different personages and in extracts from the young lady's diary, after the manner of the old novels. The originality of the conception would doubtless insure for the story a kind of *succès de curiosité*, but it possesses some real merits of a kind to warrant us in promising something in the future from the same pen of more positive and permanent value.

POEMS. By Henry Peterson. Second series.  
Philadelphia: J. B. Lippincott & Co.

This volume contains the author's poems which have been written since 1863, including a dramatic poem entitled "The Modern Job," which was noticed in our columns at the time of its first publication some ten years ago. Those who were fortunate enough to read this rather striking poem will doubtless be pleased to find it reproduced here in permanent shape. Many of the shorter poems exhibit much skill in the use of rhyme and metre, and reveal a profoundly thoughtful mind. Several in the ballad measure are quite spirited, as the "Legend of De Vries," "Tally Ho," and "Hancock." One of the largest is "Fairmount," celebrating the beauties of Fairmount Park, Philadelphia, and containing tributes to the memory of some of the great men whose names are in some way associated with the park or city, as Washington, Jefferson, Hamilton, Franklin, Thomas Moore, and others. Mr. Peterson's poems are all characterized by smoothness of versification, and by a commendable clearness and directness of expression, which gives much force to the elevated sentiments he would inspire.

"ENGLISH POLITICAL LEADERS—LORD PALMERSTON." By Anthony Trollope. London: W. Isbister.

Mr. Trollope shows his literary skill by the artistic method of his beginning. He goes at once to the most crucial period of his hero's life—the time when he was dismissed from his office by Lord John Russell. He seemed to be extinguished, and yet in the course of a few months he was manifestly victorious, triumphant over Lord John, while the court, which had really upset him, was eager to back the wish of the nation. Mr. Trollope gives the narrative very well, as, indeed, he tells the whole of the story of Palmerston's life. He is not blind to his hero's faults, does not pretend that he was a statesman, as far as domestic politics are concerned, but maintains, and that with much force and no inconsiderable success, that he understood and managed very well the country's foreign relations. There is something about Mr. Trollope's style—a style which it is so difficult to imitate and yet quite impossible to mistake—which invites confidence. It has in a remarkable degree the appearance of candor; nor is the matter untrue to the impression.

"A MODERN INSTANCE." By W. D. Howells.  
Boston: Houghton, Mifflin & Co.

Of Mr. Howells we once spoke doubtfully, waiting till he should give us a longer and less sketchy work to judge by. Our doubts are quite confirmed by "A Modern Instance."



It is simply longer, and therefore not better, but much worse than the rest. He has expanded without enlarging. We must here class him with the three ladies to whom we have just paid homage, for, like them, he is entirely absorbed by the study of a single female character. His Marcia is mainly a dolt, but has sudden flashes of the devil. The character is probably natural enough, and is fairly consistent, but it is one in no way deserving of such elaborate study. Nor was this commonplace, stupid, violent woman likely to have impressed men and women of education as she is supposed to have done. Her ungovernable passion for, and shameless pursuit of, a vulgar *bel-homme*, and her fine doings when the clay idol begins to crumble, are not heroic, but very ordinary forms of selfishness. Mr. Howells fails to see that the tremendously high moral rule by which he condemns the husband simply annihilates the wife. Though an American newspaper reporter, the man had neither the birth nor training of a gentleman; his principles were not high, and his refinement was superficial. Marcia, however, has no principles whatever beyond some conventional scruples, not the less vulgar because true; and such refinement as she possesses she sacrifices to the gratification of her passions and to her coarse jealousy. The English reader will not scruple to pity the husband of this stupid vixen, in spite of the severity of the author. To his rigid morality we cannot object; it is very sincere; but the cause of that morality, we must insist on saying, is not served by enlisting a morbid interest in the struggles of the husband's friend against his adulterous passion for the heroine. A depressing, dreary book, with all its ability and good intentions. —*The Athenæum*.

#### FOREIGN LITERARY NOTES.

THE Government have given their sanction to the proposal to name a new street in Paris after Littré.

THE Rev. Dr. James Martineau is understood to be arranging materials for a work of an autobiographical character.

THE Russian author D. L. Mordovtzev has set out for Turkey in Asia with the intention of exploring Mount Ararat.

MR. WILLIAM PATERSON, of Edinburgh, will publish at the end of this month "Last Words of Thomas Carlyle on Trades Unions: Promoterism and the Signs of the Times."

AMONG other improvements which are about to be made at the National Library, Paris, it is hoped that the electric light may be successfully introduced.

THE cost of the new university about to be established at Tomsk is definitively estimated at 1,220,000 roubles. The requisite buildings will, it is considered, be completed by the year 1885.

IN the October number of the *Edinburgh Review* is an article on "Shelley and Mary," containing important documents from the Shelly Papers which present in a new light some incidents in the life of the poet.

MESSRS. CHATTO AND WINDUS have ready for publication a new edition of Lane's "Arabian Nights," edited from a copy annotated by Lane by his nephew, Edward Stanley Poole. Mr. Stanley Lane-Poole has written a new Preface.

RAJA SAURENDRA MOHAN TAGORE, of Calcutta, whose "English Verses set to Hindu Music" first called attention to the subject some years ago, has written a Sanskrit version of "God Save the Queen," and has also undertaken to set the music to native melodies.

WE hear that the Revisers of the Old Testament have made so much progress that their work will certainly be finished in a few more months. Indeed, there is even some probability that the Revised Old Testament may be ready for publication by the close of next year.

SOME time ago we stated that Kossuth's friends in his own country proposed to make him a presentation on the occasion of his eightieth birthday. We now hear that Kossuth has himself requested that the proposed subscription should be devoted to some work of public charity.

THE Japanese Government have resolved upon establishing public libraries in every provincial capital throughout the empire. It is stated that the Government have decided to discontinue subsidizing newspapers, because the plan has proved useless as a means of suppressing Liberalism. One or two of the Japan papers have in consequence suspended publication.

UNDER the title of "Heart Chords" Messrs. Cassell & Co., will publish a series of volumes by well-known divines intended to stimulate, guide, and strengthen the Christian life. The contributors to the series will include Bishop Cotterill, Dean Montgomery, Dean Bickersteth, Dean Edwards, Dean Boyle, Canon Farrar, Canon Boyd Carpenter, Prof. Blaikie, etc.

PROF. VAMBÉRY's new work on the origin of the Hungarians will come out in a few days simultaneously in Hungarian and in German. Ethnologists have hitherto classi-

fied the Hungarians among the Finnish-Ugrian branch of the Ural-Altaic race, but Prof. Vambéry, declaring this theory, based mainly upon philological evidence, to be quite untenable, proves the Turko-Tartar origin of the Magyars.

MR. A. ARTHUR READE has conceived the idea of administering to men of letters and science a series of interrogatories touching their practice in the matter of alcohol and tobacco. He now proposes to publish, with Messrs. Heywood, of Manchester, the replies he has received, which include letters from the late Charles Darwin, Dr. Carpenter, Prof. Blackie, Dr. Alexander Bain, Messrs. E. A. Freeman, Anthony Trollope, Wilkie Collins, etc.

MR. WILLIAM BROWN, of Edinburgh, will issue immediately reprints of "Domestic Manners and Private Life of Sir Walter Scott," by James Hogg, the Etrick Shepherd, and the "Norwegian Account of Haco's Expedition against Scotland," which was originally printed in 1782. Two hundred and fifty copies of each of the books, which have long been out of print and scarce, will be printed on vellum paper.

THE *Scotsman* of October 3d gives a long account of an interesting relic of Burns preserved in the Select Subscription Library at Edinburgh, which is now being dispersed. This is Burns' own copy of Robert Ferguson's poems, containing the holograph of the well-known lines entitled "Inscribed under Ferguson's Portrait," and several other verses. It is noticeable that the holograph differs in two or three respects from the lines as printed from 1803 downward, and that it happens to be written above, and not below, the portrait. The book was given by Burns, as shown by an inscription in his handwriting, to the poetess Miss Carmichael.

#### SCIENCE AND ART.

MUSIC BY TELEGRAPH.—Among the special features of the Munich Electrical Exhibition is a telephone transmitting thither pieces of music performed at Oberammergau, which is about sixty-three miles distant; also a giant telephone, which transmits concert pieces performed in the English Café, so as to be audible to the whole of an audience in a large hall at the Palace. A special interest also attaches to the transmission of power by a single wire from the coal-mines of Miesbach, about thirty-seven miles distant, as the possibility of utilizing the heat of coal at a distance without transport of the coal is concerned.

PHOTOGRAPHY FROM TRAINS.—Instantaneous photography, in its more familiar aspect, supposes motion of the objects photographed; but another form of it is that in which it is the camera, more especially, that has motion of translation, as in photographing from balloons or trains. The practicability of photographing landscapes from the window of a train running at a rate of even forty miles an hour has been recently proved by Dr. Caudéze, who uses what he calls a gyrograph for the purpose. The apparatus comprises a copper tube similar to that which carries the lenses in ordinary cameras, but the lenses are placed on opposite sides parallel to the axis. Within is a shutter similar to the box of a stopcock; it presents two quadrangular apertures, which, according to the position of the shutter, do or do not let pass the light rays in making a quarter of a turn. This rotatory movement is obtained by means of a spring liberated from a catch. An exposure of only 1-100th of a second may be had. With a little practice wonderfully distinct views, it is said, can be obtained with the apparatus.

ARTIFICIAL AERATED WATERS.—Another striking evidence has been afforded, by the outbreak of a small epidemic of typhoid, of the carelessness with which some manufacturers of artificial aerated drinks employ sources of water not free from suspicion or elements of danger. It is commonly enough supposed that, where the water-supply is suspicious, safety may be found in the soda-water, seltzer, or ginger-beer. This, however, obviously depends upon the purity of the water employed in their manufacture. Little as this is regarded, it deserves much more consideration than it generally receives. It is the last cause of infection to be investigated; but the observation on a former occasion, by Dr. Thursfield, of an outbreak of typhoid due to the consumption by a shooting party of soda-water made with impure water, has been followed this month by a sharper and more extended attack of typhoid due to ginger-beer made with similarly infected water. Pure natural mineral water has of late years become the resource and luxury of a large part of the population, and such accidents as this are likely to strengthen the habit. None the less it is important for sanitarians to keep an eye to the now plainly proved source of infection, developed in the unexpected direction of artificial aerated waters.—*London Medical Record*.

"A CURIOUS FACT IN EVOLUTION."—A correspondent writes to the *Times*:—"A certain spot in the grounds of the Rev. Lord Sidney, Godolphin, Osborne, Durweston, has, for I know not how many years, by the reverend

gentleman's kindness, furnished microscopists with a peculiar kind of earth. On taking a very minute portion of this earth and immersing it in a drop or two of pure water, two species of a most lovely animal, *Rotifer vulgaris*, will be developed in about ten minutes. No matter how often you repeat the experiment, the same two forms invariably appear. The process of development can be watched under the microscope with a quarter-inch power; for in this short space of time named, the complex organisms will be seen to swim about and exercise, in a perfect manner, all the functions of their existence. A curious fact in connection with the subject is that if the earth is carefully kept, the same process may be repeated, with like results, for twelve months at least, after which these animals seem to be unable to resist further desiccation. But not so a more lowly organized form which also makes its appearance in the solution, for at the end of ten or twelve years I have obtained a good crop of minute protoplasmic creatures, amœba, belonging to the lowest class of animal life, such as those mentioned in the paragraph from the *American Journal of Science*, and whose reproduction is carried on as there described, by segmentation, separation, or self-division; a process which has probably been going on throughout all time and will, I venture to think, go on *ad infinitum*. Only last week, on taking a packet of earth from a drawer, dated Durweston, July 13, 1869, and placing a very small quantity in a drop of water on a microscopic slide, in a short time I had an interesting display of these curious protean bodies, amœba, moving about over the field of the microscope."

**ANOTHER AFRICAN EXPEDITION.**—It is reported that the Council of the Royal Geographical Society contemplates the equipment of another expedition to the "Dark Continent," in order to explore the mountains Kenia and Kilimanjaro, and the country which separates them from the eastern shores of Victoria Nyanza. This expedition is to be under the command of Mr. Joseph Thomson, and will start on its mission early next year.

**NEW RAINFALL RECORDER.**—The unseasonable weather has perhaps had something to do with the invention of a very clever little contrivance for recording the duration of rainfall. Most of our readers must be familiar with the form of the ordinary rain-gauge or pluviometer, which may be roughly described as a funnel leading to a graduated glass vessel, by which the amount of liquid collected can be easily read off in hundredths of an inch. This rough-and-ready apparatus, although it has been improved upon so as to prevent loss by evapo-

ration, etc., leaves much to be desired. It would take no note, for instance, of very light showers, which would therefore pass unrecorded. The new rainfall recorder, the invention of M. Schmeltz, appears to meet this want, for it will register the falling of a single drop, provided that drop falls upon its sensitive surface. It consists of a box containing a slip of chemically prepared paper, which moves by clockwork from one reel to another, a certain length of the paper passing, as in the Morse and other printing telegraphic machines, within a given time. The paper in question is first treated with a solution of sulphate of iron, and after being thoroughly dried, is brushed with tannic acid. A drop of water on such a surface is sufficient to bring the two chemicals into nearer relationship, and a dark mark is the result. (Our chemical readers will see that the two agents named are the constituents of common writing-ink.) It stands to reason that if the paper be graduated into hours and minutes, the exact time and duration of the rainfall will be recorded. It will be noticed that this rainfall recorder does not afford any means of judging of the amount of water received by the soil, and perhaps for this reason it will serve as an aid to the ordinary rain-gauge, rather than a contrivance destined to supersede that instrument.

**A VIGOROUS MUSHROOM.**—The enormous power of cell growth was strikingly illustrated a short time since in a grain elevator at Buffalo, N. Y. The asphalt flooring was over a foot thick, in two layers. The upper layer was seven inches thick, laid hot, rolled down, and thoroughly cooled four years ago. Below was an old floor of tar and gravel, six inches thick. A curious bulge in the floor was first noticed, covering about a square foot. In six hours the floor was burst open, and a perfectly-formed mushroom, with a stem two inches through and a very wide cap, made its appearance. Elsewhere the floor is smooth and unbroken.

**A GIANT BIRD.**—In the neighborhood of Rheims, recently, M. De Lemoine found sufficient remains of a remarkable bird (of new species), belonging to the Eocene epoch, to give a fair idea of its structure. A thigh bone of the same animal had before been discovered by M. Planté, the well-known physicist, at Meudon; it was about eighteen inches long. The bird was of gigantic size, having a height, when erect, of at least ten feet. The skull was comparatively large, and less disproportionate than that of the ostrich. In the opinion of M. Alph. Milne-Edwards, judging by the skeleton, the bird had affinities to the duck, but it has peculiarities which forbid the ranking of it in any of the present natural

groups. It has been called *Gastornis Edwardsii*. Various anatomical details, with a representation of the skeleton, are given by M. Meunier in *La Nature*, 466.)

EARTH VIBRATIONS.—Professor H. M. Paul ingeniously employs reflected light as a means of testing the vibration imparted to the earth by moving vehicles. His arrangement is a very simple one. He sinks a stout post some four and a half feet into the ground, and upon this is a plank supporting a reservoir of mercury—or, rather, of amalgam of tin and mercury. The surface of the mercury is obviously a mirror, and when any vibration is felt by the earth the surface of the mercury is disturbed more or less. An object of a suitable kind is reflected upon the mercury surface, and when there is no vibration this reflected image is, of course, sharply defined. As soon, however, as any vibration occurs, the image moves, and becomes more or less exaggerated. Professor Paul has hitherto employed a telescope to note the amount of vibration, taking optical notes the while; but the *Photographic News* thinks there is little doubt that photography would help materially in registering the degree of change or vibration. He has found that an express train passing at a distance of one third of a mile affects the mercury very considerably for a space of two or three minutes, and a one-horse vehicle, passing at a distance of five hundred feet, caused a disturbance of the image on the surface of the mercury whenever one of the carriage wheels passed over a stone.

#### MISCELLANY.

THE SUNFLOWER AS AN INDUSTRIAL PLANT.—It may not be generally known that the sunflower (*Helianthus annuus*) has considerable claims to attention from an industrial point of view. Its seeds afford an excellent oil, which is not only useful as a lubricant for machinery, but is one of the best of table oils. The seeds, again, afford admirable food for poultry, the stalks furnish a good textile fibre, and the blossoms yield a brilliant, lasting, yellow dye. So highly does Baron von Müller think of the virtues of the plant that he includes it in his list of selected plants suitable for acclimatization and industrial cultivation in the colony of Victoria. As much as fifty bushels of seedlings have been obtained from an acre of ground under favorable conditions, and as much as fifty gallons of oil can be pressed from such a crop. When he states that about six pounds of seeds are required to sow an acre, from which such an enormous return is possible, it is scarcely surprising to be told that "the return from a

sunflower field is attained within a few months." The plants, the same authority states, prefer calcareous soil. Baron von Müller, however, has not by any means exhausted the list of virtues which the plant possesses. The Chinese, who have so far appreciated its properties as to use its fibre in adulterating and dyeing their silk fabrics, and its oil not only as a lubricant but as an illuminant, state that its flowers supply the best bee food, and that the "cake" left after expressing the oil is superior to linseed cake as a food for cattle. The leaves are also employed as a substitute for or for mixing with tobacco, and as an ingredient in soap manufacture the oil is highly prized.

POPULATION OF THE EARTH.—In the new edition of Behm & Wagner's *Bevölkerung der Erde*, the total population of the globe is estimated at 1,433,887,500. It is only two years since the last issue of the work; and then the estimate was 1,455,923,500, showing an apparent decrease in two years of almost 22,000,000. This at first seems strange, especially as the recent censuses of all the great countries show an increase of 32,000,000 over the previous numbers. The apparent discrepancy is accounted for by the fact that the editors of the *Bevölkerung*, on a careful revision of all the information as to the population of China, have come to the conclusion that their former estimate was far too high, and that, instead of that vast empire having a population of over 430,000,000, it does not much exceed 370,000,000, with all its dependent territories. There has thus been an actual increase of about 38,000,000 in the population of the globe—an increase, however, which must be spread over ten years, as many of the recent censuses are decennial. For Europe the present population is rated at 327,743,400, showing an increase of about 12,000,000 over the previous figures, by the operation of the censuses. In Asia, making allowance for the readjustment of the population of China, there has been an increase of 20,000,000, the present population being set down at 795,591,000. Of this the Indian Empire claims about one third, while all the vast territory of Russia in Asia supports a population of only about 14,500,000. The Central Asian possessions of Russia have a population of only 5,000,000. With regard to the Corea, whose inhabitants have been estimated at various figures from 7,000,000 to 16,000,000, Messrs. Behm & Wagner give 8,500,000 as probably near the truth. The population of Persia they have reduced, on the basis of recent information, from 8,500,000 to little more than 7,500,000.



**ASSES' MILK FOR WEAKLY INFANTS.**—In the Paris Academy of Medicine M. Parrot has recently called attention to some remarkable results obtained in the Hôpital des Enfants-Assistés, of Paris, in feeding delicate infants with asses' milk. Many of the infants brought to that hospital have diseases which forbid their being suckled by nurses (whom they would soon infect). Hence the feeding-bottle was formerly used for them; but, spite of great care, the endeavor to foster the small vital force of these children was of little avail. Direct application to the udder of an animal was then tried. At first the infants were thus fed with goats' milk, but it was soon found that asses' milk was greatly preferable, and all are now fed with that, one, two, sometimes even three infants being held to the animals' udders at once. The nurses do this with great ease. The results of the treatment appear well from the figures cited. During six months, 86 infants having congenital and contagious diseases have been treated in the hospital nursery. Of the first six, fed with cows' milk in feed-bottles, one only was cured. Of 42 fed at the goat's udder, eight were cured, while 34 died. Of 38 fed at the ass's udder, 23 have been cured, while six have died. The virtues of asses' milk have been appreciated some time in France. For many years (we learn from *La Nature*) Paris and the large towns have been visited every morning with troops of she-asses, brought in to supply their milk for invalids. It is said the use of the milk was introduced by Francis I., who, reduced to a very weak state and a despair to physicians, was induced by a Jew from Constantinople to take asses' milk, and thereby got well again. This milk has much less of plastic matters and butter than goats' or cows' milk, and is easily digested. M. Parrot notices the practical advantage in the case of suckling from the ass, in that the animal is so easily fed; it is content with the poorest fodder. The goat suffers from a diet that lacks variety, and in the city its milk is not what it is in the country. The asses kept at the hospital referred to are in stables adjoining a field, in which they generally pass part of the day. It may be mentioned, in fine, that weekly statistics for Paris have lately presented the unwonted fact of an excess of 200 and 240 births over the deaths.

**MR. DARWIN AND REVELATION.**—The following correspondence has been addressed to the Editor of the *Pall Mall Gazette*:

SIR,—The enclosed is the translation of a letter written by Mr. Darwin in answer to an inquiry from a young student at Jena, in whom the study of Darwin's books had raised re-

ligious doubts. It is, perhaps, not altogether irrelevant, at a time when priests of various creeds are claiming Darwin for their own, to publish an authentic statement of what his views really were, particularly as this statement will be widely read in Germany, and Darwin's own countrymen ought to be at least as well informed on the subject as foreigners.

—I am, Sir, your obedient servant,

KATHARINE MACMILLAN.

FEANKFORT-ON-MAIN, Sept. 20.

[Letter from Mr. Darwin to a young student at Jena quoted in a lecture by Professor Haeckel at the Natural Science Congress at Eisenach.]

SIR,—I am very busy, and am an old man in delicate health, and have not time to answer your questions fully, even assuming that they are capable of being answered at all. Science and Christ have nothing to do with each other, except in as far as the habit of scientific investigation makes a man cautious about accepting any proofs. As far as I am concerned, I do not believe that any revelation has ever been made. With regard to a future life, every one must draw his own conclusions from vague and contradictory probabilities. Wishing you well, I remain, your obedient servant,

CHARLES DARWIN.

DOWN, June 5, 1879.

**GRAY HAIR.**—Probably the commonest of all complaints about the hair is that it is getting gray. As years go on the gray hairs appear, first on the temples, and then over the whole of the head. Some people are gray from birth, and this peculiarity is met with in its most complete form in "albinos," who are destitute of pigment or coloring matter of any kind. In these people the hair of the head has usually a pearly-white color, while the short hairs of the body are exceedingly fine and soft. Premature grayness is undoubtedly hereditary. Sometimes it follows a severe illness, or it may be the result of depressing nervous influences, such as worry and anxiety, or hard mental work, combined with a sedentary life. Sometimes the mischief is due to a local cause, as in neuralgia, for example, where the nerve presiding over the nutrition of the part is at fault. Sometimes, as every one knows, the hair turns white in a single night from intense fear or anxiety. The case, for example, is related of a rebel sepoy of the Bengal army who was taken prisoner, and brought before the authorities for examination:—"Divested of his uniform, and stripped completely naked, he was surrounded by the soldiers, and then first apparently became alive to the dangers of his position. He trembled violently, intense hor-

ror and despair were depicted in his countenance; and, although he answered the questions put to him, he seemed almost stupefied with fear. While actually under observation, and within the space of half-an-hour, his hair became gray on every portion of his head, it having been when he came into court of jet-black color. It is said that the attention of the bystanders was first attracted by the sergeant, whose prisoner he was, exclaiming, "He is turning gray!" and gradually, but decidedly, the change went on before them all, till in the space of half-an-hour it was complete." This is, perhaps, one of the most striking cases ever recorded. When the change takes place in early life there is a hope that the original color may in time be regained. —*Family Physician.*

THE SANDWICH ISLANDS.—That the native population of the Sandwich Islands was steadily diminishing has been notorious for years, and some statistics recently compiled present a startling picture of the extent to which foreigners have already supplanted the original inhabitants. The whole number of persons assessed for taxation in the kingdom is 30,899, of whom only a bare majority—15,525—are Hawaiians, while they pay but \$112,796 in taxes, or considerably less than a third of the \$385,212 raised from all nationalities. The Chinese come next in numbers, 11,004 Mongolians being assessed for \$74,614; but the Americans, though only 1310 in all, pay \$102,567, while 827 British pay \$51,898; 299 Germans, among whom are some of the largest sugar-planters, pay \$25,128. The Americans, British and Germans, numbering altogether less than 2500, thus pay much more in taxes than the natives, and as the foreign element increases in population and wealth year by year, the islands promise at no distant day to be Hawaiian only in name.

MOONSTRUCK.—"The sun shall not smite thee by day, nor the moon by night." This beautiful verse expresses the belief, common in ancient days, that the moon exercises a baleful influence upon those exposed to her direct rays. In modern times the pernicious influence of the moon has been doubted and even denied. But whatever the influence of the moon in the temperate zones, within the tropics it is very injurious to sleep exposed to its rays, especially when at the full. On a voyage to the Antipodes, when near the line, a Maltese sailor, who was a most comical fellow, slept for some hours on the boom with his face toward the full

moon. On awaking in the morning, the muscles of the right side of his face were contracted, so that every attempt to speak was attended with the most ludicrous contortions. Feeling sure that something was seriously wrong, he spoke to another sailor, who, supposing that as usual he was at his odd tricks, burst out into laughter. Off he went to another, with exactly the same result. The poor fellow now got into a rage, thereby adding not a little to the ludicrousness of the scene. After a while the truth dawned upon the captain and officers of the vessel. The doctor gave him some medicine, the muscles gradually relaxed, and in the course of a week our Maltese friend was well again. Some five or six years ago, when sailing from Tahiti to Mangaia, a little boy of mine, in perfect health, was thoughtlessly placed by his nurse in his berth, the slanting beams of the moon falling on his face. Next morning he was feverish and ill, and it was two or three days before he was himself again. On the island of Aitutaki, a native woman was watching night after night for the return of her husband from the island of Atiu. While doing so one night she fell asleep, the moon's rays pouring upon her face. On awaking she felt ill, and her eyes were drawn on one side. Considerable interest was felt by the islanders in her case. Eventually, however, her eyes were restored. These facts illustrate the injury done to human beings by the moon in the tropics. Yet I never heard of insanity or death resulting from this cause. It is well known, however, in tropical countries, that the moon's rays occasion the rapid decomposition of flesh and fish. A number of bonitas having been caught one evening near the line by a friend of mine, the spoil was hung up in the rigging of the ship, and was thus exposed to the moon through the night. Next morning it was cooked for breakfast. Symptoms of poisoning were soon exhibited by all who partook of it—their heads swelling to a great size, etc. Emetics were promptly administered, and happily no one died. The natives of the South Pacific are careful never to expose fish—a constant article of diet in many islands—to the moon's rays by any chance. They often sleep by the sea-shore after fishing, but never with the face uncovered. The aboriginals of Australia do the same as well as they can with their fishing-nets, etc. A fire answers the same purpose. May not the injurious influence of the moon (in addition to her beauty and utility) account for the almost universal worship of that orb throughout the heathen world?—*Sunday at Home.*

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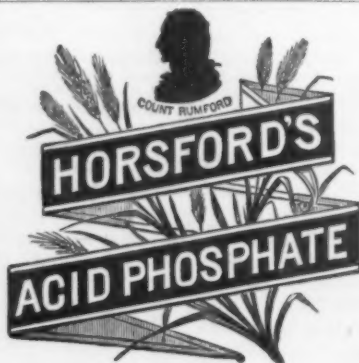
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## PUBLISHER'S MISCELLANY.

### BRITISH COAL MINES.

Not less than 154,184,300 tons of coal were taken out of British mines last year, and to do this work 495,000 men were employed. Sir Henry Bessemer has been endeavoring to make people realize what that quantity of coal really is. He says that if this coal were formed into cylindrical columns 50 feet in diameter and 500 feet in height, and if these were placed in a row their own diameter apart, they would make a colonnade 85 miles 750 yards long, the product of each working day being sufficient to make 14 such columns. Another method of giving some idea of the immense nature of the British coal industry is this: The coal extracted last year would make a wall 200 miles long, 100 feet high, and 41 feet 11 inches thick, a mass exceeding that of the great wall of China by enough to add 346 miles to its length. And yet so vast are the British coal deposits, it is estimated that they will yield the present output for 800 or 1000 years to come.

EDITIONS OF SHAKESPEARE.—Some important editions of Shakespeare were sold at auction in London a fortnight ago for large sums. They were part of the Ouvry collection. For the first folio \$2100 was paid; for the second, \$230; for the third, \$580, and for the fourth, \$140. Halliwell's edition fetched \$330; Collier's \$122, and the lithographic facsimiles of the early quartos, \$880. The "Rape of Lucrece," dated 1616, although slightly defective, brought \$177, and the edition of 1624, \$155. At the same sale Major's illustrated edition of Walton's "Angler" went for \$162; Smith's "True Relation of Occurrences in Virginia" for \$285, and the first edition of Spenser's "Faerie Queene" for \$165.

MRS HOLMES' EMBROIDERY.—Dr. O. W. Holmes calls the work of his daughter-in-law "poems in embroidery." The lady does not first sketch her picture, but works it as she goes along with her tinted silks. "A View of Charles River at Night," worked in three squares, and so framed in ebony as to look like the night landscape in the new moon, seen through a window-sash, received a dozen offers of purchase before the day on which it was to be placed on public exhibition.

A PIOUS CABMAN.—The following story is old of a distinguished Edinburgh professor; Desiring to go to church one wet Sunday, he hired a cab. On reaching the church door, he tendered a shilling, the legal fare, to cabby, and was somewhat surprised to hear the cabman say, "Twa shillin', sir." The professor, fixing his eye upon the extortioner, demanded why he charged two shillings, upon which the cabman dryly answered, "We wish to discourage travellin' on the Sawbath as much as possible, sir."

OPIUM-SMOKING IN NEW YORK.—The evil of opium-smoking has been growing with alarming rapidity in New York City during the past few months. In the dens where it is most fostered no Chinamen are seen; those who keep these places and those who frequent them are nearly all Americans. In all other respects an effort is made to impart to the places an Oriental air. When lighted dimly by jets burning in globes stained deep blue, these places, with their carpeted benches along the walls, their heavy curtains, and their atmosphere laden with the not unpleasant fumes of the drug, prove attractive to those of the imperilled classes who go there for the first time. It will soon be evident that legislation to check the evil of opium-smoking in New York is imperatively demanded. Its growth is something unprecedented in this city.

EMIGRATION FROM GERMANY.—Thus far, this year, the number of emigrants who have left Germany for the United States and other countries, but chiefly for that one, has been greater than ever before. In March alone no fewer than 14,697 left the one port of Hamburg in 102 steamers and 1 sailing vessel, and the Hamburg companies complain that they are unable to find room for all who wish to sail. Last year 210,547 emigrants left the country, but this year a much larger number are expected to leave. Bremen, Antwerp, and Stettin are the ports from which these people sail.

For lighting the new residence of Mr. W. H. Vanderbilt, in this city, it is stated that there are 2000 gas-burners, supplied by about 15,000 feet, or nearly three miles, of pipe.

JOHN G. SAXE, the poet, though infirm in health, has fortunately long been very firm in his finances. Some years ago he greatly increased his fortune by a speculation in cattle-raising in Texas with his brother Peter. "My brother John," Peter said, "has made more money out of cattle in one year than he has made in writing poetry in twenty years." Many years ago, when lecturing first came into vogue, Mr. Saxe was one of the most successful of those who patrolled the country, delighting large audiences, and calmly taking their sequins.

SALE OF VALUABLE BOOKS.—Mr. Beresford Hope has just sold a part of his celebrated collection of books, and for some of them obtained excellent prices. Among the choice things in the sale were the first four folio editions of Shakespeare, the fourth edition being in fine condition, but the others had had their titles mended, and were otherwise not so perfect as a collector would be glad to see them. For the first, \$1190 was paid; for the second, \$177; for the third, \$363; for the fourth, \$120. Cardinal Ximenez's Polyglot Bible, in six volumes, fetched \$830; Cicero's Letters, first edition (Rome, 1470), \$135; the first edition of Homer, \$355, and Wyckliffe's New Testament (manuscript, about 1430), \$300.

NEW YORK STATE RAILROADS.—Mr. Chauncey M. Depew, in his able speech recently delivered before the Assembly Committee on Railroads, in reference to a Railroad Commission, makes a statement that will be new to most readers, viz., that "of the one hundred and thirty-two railroad corporations in this State, only thirty-four are earning a penny for the men who have built them for the benefit of the State, and the rest are furnishing their property for the use of the people without any return whatever." In the railways of this State over six hundred millions of dollars have been invested, and sixty-five thousand voters are employed in their working.

CONSUMPTION OF SPIRITS IN ENGLAND.—Mr. William Hoyle has compiled from the British Excise returns some interesting figures, showing the expenditures of the nation last year for drink. Of beer consumed he finds the quantity 970,788,564 gallons, the value of which was £72,809,142, against £67,881,673 in the previous year. Of British wines and spirits the consumption was 28,730,719 gallons, which amounts to £28,730,719, against £28,457,486 for 1880. In foreign spirits the figures are 8,295,265 gallons, amounting to £9,954,318, against £10,173,014 in 1880. For wine the figures are 15,644,757

gallons, amounting to £14,080,281, against £14,267,102 in 1880; while the consumption of British wines is estimated at 15,000,000 gallons, amounting to £1,500,000, the same as in 1880. The total in 1881 is £127,074,460, against £122,279,275, showing an increase of £4,792,185. The consumption of beer shows an increase of 7.3 per cent, and that of British spirits one of 0.96 per cent, while foreign spirits shows a decrease of 2.2 per cent., and wine one of 1.3 per cent. Taking the percentage of the total it gives an aggregate increase of 3.9 per cent. With regard to the consumption of beer, Mr. Hoyle finds, by the avowal of the brewing interest itself, that the old computation was delusive, so that the real increase in the drink bill was only 0.8 instead of 3.9 per cent.

VALUABLE BEQUESTS.—Mr. John Jones, the Piccadilly tailor who recently died and bequeathed to the Kensington Museum a choice collection of art objects, gave also, it appears, the sum of \$1,000,000 to another public institution of exceptional worth and desert. At Ventnar, on the Isle of Wight, there was founded, some years ago, a hospital for consumptives, on the cottage system, and to this Mr. Jones has left his \$1,000,000. The hospital is one of the youngest in the country and one of the best.

#### BOOKS RECEIVED.

[The Publisher will send any book reviewed in the *ECLECTIC*, or any other new publication, postage paid, on receipt of the price.]

*Skeat's Etymological Dictionary of the English Language.* By Rev. W. W. SKEAT. New York: Macmillan & Co. 4to, 800 pp. Price, \$2.50.

*Dictionary of the French Language.* By GUSTAVE MASSON. New York: Macmillan & Co. 12mo, 416 pp. Price, \$1.

*Comic History of the United States.* By L. HOPKINS. New York: Henry Holt & Co. 12mo, 223 pp. Price, \$1.

*The Revolt of Man.* New York: Henry Holt & Co. "Leisure Hour Series." 257 pp. Price, \$1.

*The Eleventh Commandment.* By A. G. BARRILL. New York: William S. Gottsberger, 377 pp., paper. Price, 50 cents.

*The Russian Empire.* By S. B. Boulton. New York: Cassell, Petter, Golpin & Co. 192 pages, paper. Price, 25 cents.

*Essays at Home and Elsewhere.* By E. S. NADAL, author of "Impressions of London Social Life." New York: Macmillan & Co. 12mo, 200 pp. Price, \$1.50.

*William Penn.* By Robert Burdette. New York: Henry Holt & Co. 16mo, 366 pp. Price, \$1.25.

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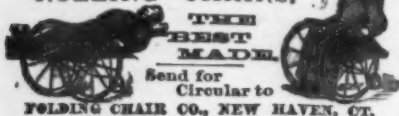
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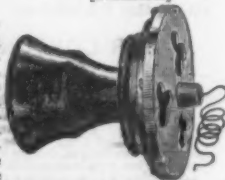


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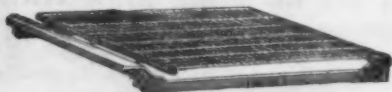
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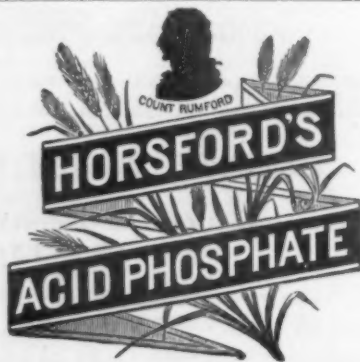
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### INCREASE IN FARM LANDS.

THE recent census gives some valuable information concerning the extent and size of the farm lands of the country and the great increase of such property within the last two decades. Illinois leads the list of States and Territories in respect to the number of farm lands, and then come in order New York, Missouri, and Pennsylvania. The largest increase in the past decade is shown in the case of Kansas, and a gratifying increase is also recorded in the cases of Iowa, Missouri, and North Carolina. The majority of the farms vary in size from 20 to 500 acres, the greater proportion in this number ranging from 100 to 500 acres. California contains some farms which reach 1000 acres in extent. Farming is conducted on a similar large scale in Dakota, Nebraska, Wisconsin, and some other Northern States. Large farms of 1000 acres and over are found in many places in Louisiana, Mississippi, and North Carolina. It is cited as an illustration of the prosperity of these vast farming interests that about 75 per cent of all the farms in most of the States and Territories are occupied by the owners, while the remaining 25 per cent are either let at fixed rentals or cultivated on shares. The record of farms in the larger agricultural States and their increase in numbers are given by the census as follows: California, in 1880, 35,934 farms; in 1870, 23,724; in 1860, 18,716; Dakota, in 1880, 17,435 farms; in 1870, 1,720; in 1860, 123; Illinois, in 1880, 255,741 farms; in 1870, 202,803; in 1860, 143,310; Indiana, in 1880, 194,013 farms; in 1870, 161,289; in 1860, 131,826; Iowa, in 1880, 185,351 farms; in 1870, 116,292; in 1860, 61,163; Kansas in 1880, 183,561 farms; in 1870, 38,202; in 1860, 10,400; Kentucky, in 1880, 166,453 farms; in 1870, 118,422; in 1860, 90,814; Michigan, in 1880, 154,008 farms; in 1870, 98,786; in 1860, 62,422; Mississippi, in 1880, 101,772 farms; in 1870, 68,023; in 1860, 42,840; Missouri, in 1880, 215,575 farms; in 1870, 148,328; in 1860, 92,793; New York, in 1880, 241,058 farms; in 1870, 216,253; in 1860, 196,990; North Carolina, in 1880, 157,609 farms; in 1870, 93,565; in 1860, 75,203; Ohio, in 1880, 247,189 farms; in 1870, 195,953; in 1860, 179,889; Pennsylvania, in 1880, 213,542 farms; in 1870, 174,041; in 1860, 156,357; Virginia,

in 1880, 118,517 farms; in 1870, 73,849; in 1860, 92,605; Wisconsin, in 1880, 134,322 farms; in 1870, 102,904; in 1860, 69,270.

**CARRIER PIGEONS IN WARFARE.**—The secretary of the German navy has now definitively resolved to employ carrier-pigeons in the coasting service, all the experiments with them made by the Prussian Government on the coast of the North Sea since 1876 to establish communication with the light-ships lying off the coast having been successful. Such communication is of the utmost importance, not only for the light-ships themselves, but likewise for incoming vessels if they become disabled or foundered. Timely intimation of their distress is thus brought to land, and help of some kind may be sent them. The system of despatching the pigeons has been most thoroughly tested, and found to answer admirably, especially during the severe gales at the mouth of the Eider last autumn on two lightships out at sea—one thirty-six leagues distant, and the other a galliot at anchor nearer the land. Two stations for carrier-pigeons have now been established, by which important news may be sent to Tönning. Birds bred for the purpose have flown the distance of thirty-six leagues in thirty minutes, despite the heavy gale blowing at the time.

**UDOLPHO WOLFE'S SCHIEDAM AROMATIC SCHNAPPS.**—It is scarcely necessary to call attention to an article so universally recognized as that of the Schiedam Schnapps. Its virtues have long since asserted themselves in cases to which it is peculiarly adaptable, and the immense sales effected throughout the markets of the world prove that it has intrinsic merit. It has been pronounced by scientists to possess the qualities of a gentle stimulant and fine invigorant, and careful analyses have proven that it is entirely free from all adulterating ingredients.

**BICYCLING IN FRANCE.**—The vice-president of the Lyons Bicycle Club has just made an extraordinary tricycle journey, accompanied by his wife, on a two-seated machine. They went from Lyons, through Nice, Genoa, and Rome, to Naples, returning *via* Florence and Turin—a journey of 2300 miles, at an average of fifty to sixty miles a day on the road.

**HOUSES BUILT FOR ALL TIME.**—The houses that are being built now in Paris are not such as the coming generation will find "stuffy," "too small," "old-fashioned," and so on, criticisms which with us are commonly passed on the creations of the last 25 years; they are houses intended to last practically for all time. Built of solid stone and iron throughout, with foundations that resemble Roman work, on the traditions of which, by the way, they are built by the sturdy Southern workmen. Commercially, also, these investments prove successful, and household property, so far from being a drug in the market, is at a premium. By the judicious division into "flats," not only is every inch of space utilized—the amount of rent for unoccupied room in England it would be curious to calculate—but all pockets are accommodated, from the prince who occupies the first floor above the thrifty *concierge* on the *rez-de-chaussée*—whose charge it is to open the door at night and keep, not only his or her own neat *loge* bright and clean, but the *porte-cochère* and the yard, with its pretty green plants and bright brass water-cock—through the intermediate *étages* to the fifth or *cinquième*, with its healthy balcony, where the large family of the modest lodger can enjoy the air and view as a compensation for the sensible distance from earth. But all own in common, from the prince to the fifth floor employé, bank clerk, or civil servant, the *porte-cochère*, through which rolls from the compact stables and coach-house in the yard at the back the carriage of the "first floor"—and for all alike the entrances are kept clean, the lamps bright, the oak staircase well waxed; each in his respective and well-proportioned degree making up the very comfortable rental which *Monsieur le propriétaire*, through his agent, the *concierge*, receives quarterly from his tenants.

**WEAR OF COIN AND BANK NOTES.**—The relative cost in wear and tear of gold coin as compared with bank notes has lately been investigated in England, and the advantage has been found to be largely with the coin. To manufacture a million of sovereigns cost \$10,000, or about a cent apiece. In fifteen years they lose in weight one-half of one per cent, or about \$25,000, and become too light for further use. This makes their total expense as currency for the fifteen years \$35,000. The paper and printing of a million one-pound notes would cost, it is estimated, four cents apiece, or \$40,000 at the outset, and during fifteen years they would have to be replaced at least three times, or, with active use, six times, thus requiring an outlay of certainly \$160,000, and perhaps \$280,000,

for the same period that a million sovereigns would remain in circulation.

**IRISH EMIGRATION.**—The emigration from all the Irish ports in the year 1881 was less than in 1880 by 17,138, the total for 1881 having been 78,719. All except 302 of these 78,719 were natives of Ireland. Leinster furnished 16,232 of them, Munster, 21,752, Ulster, 24,101, and Connaught, 16,332. Since 1851 the total emigration has been 2,715,604, the yearly number having fluctuated from 190,322, in 1852, to 37,587, in 1876. Of those who went away last year, 78.4 per cent went to the United States, and 10,623 to Great Britain. About 64 per cent of the total were classed as laborers, and only 6 per cent as farmers.

**DR. SCHLIEMANN** tempers the heavy drudgery of scientific exploration by a generous diet and a liberal hospitality. He lives in an imposing marble palace at Athens, which bears on its front, above the door, the inscription, in letters of gold, "Hall of Ilium." Here every other Thursday evening during the winter he entertains a hundred or more professors, journalists, and statesmen. The spacious parlors afford room for more than three hundred guests. All the decorations of the house commemorate Dr. Schliemann's great researches. The floors are paved with Italian mosaics, the walls covered with Pompeian frescoes and patterns of objects found at Troy and Mycenæ, and Homeric mottoes and inscriptions abound. At the family table classic Greek alone is spoken, and even the servants have classic names—the gardener is Priam, the porter Bellerophon, and the two nurses Hecuba and Polyxena.

#### BOOKS RECEIVED.

[The Publisher will send any book reviewed in the ECLECTIC, or any other new publication, postage paid, on receipt of the price.]

*Yesterday.* New York: Henry Holt & Co. "Leisure Hour Series." 300 pp. Price, \$1.

*Henry D. Thoreau.* Edited by CHAS. DUDLEY WARNER. Boston: Houghton, Mifflin & Co. "American Men of Letters Series." 16mo, 324 pp. Price, \$1.25.

*In the Harbor.* By H. D. LONGFELLOW. Boston: Houghton, Mifflin & Co. 16mo, 88 pp. Price, \$1.

*Antinous.* A Romance. By GEO. TAYLOR. New York: William S. Gottsberger. 343 pp. Price, 50 cents.

*The Library History of England.* By Mrs. OLIPHANT. New York: Macmillan & Co. 3 vols. 12mo, 966 pp. Price, \$3.

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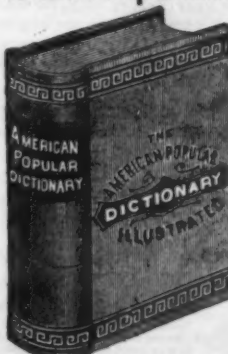
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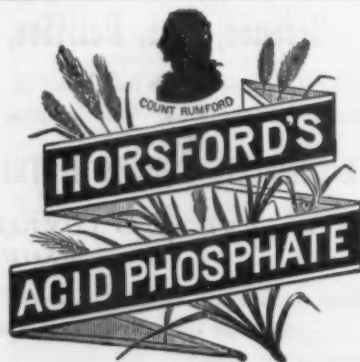
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VINEYARDS OF THE ROTHSCHILDS.—The Rothschilds, fortunate with their vineyards as with most of their other enterprises, have just sold, after retaining an ample supply for their own use, last year's crop of Château Lafitte for \$175,000, this being at the rate of \$1600 for a hogshead containing forty-five gallons, or about seven dollars per bottle. They do sell us here in New York what purports to be Château Lafitte at from three to six dollars per bottle, and lips are smacked over it as the genuine thing. The vineyard of Château Lafitte is one of the very few in the Bordeaux country which have escaped the phylloxera.

THE LIFE OF ICEBERGS.—The extraordinary number of icebergs which have been met with in the Atlantic during the last few weeks,

whereby several ships have been placed in imminent danger of complete destruction, has again drawn attention to this serious peril of Atlantic navigation. To the ordinary danger of collision with an iceberg at night, to which may be attributed the loss of several Atlantic steamers which have left port in a perfectly well-equipped state never to be heard of again, there is added the danger—a comparatively rare one until the present season—of ships being caught in a large ice-floe and crushed to pieces if they were engaged in Arctic exploration. Such a catastrophe in mid-Atlantic would afford little hope of the rescue of a single soul on board the ill-fated ship. The report of the steamer *Mark Lane*, which arrived lately at Halifax, N.S., from Dundee, gives a vivid idea of the dangers which a vessel so entrapped must run. For three weeks the vessel was encompassed by ice, and so closely did the huge icebergs at times come that it was feared the ship and crew would be crushed between them. The coal being exhausted, the whole of the wood available was obtained and burnt, and at last the shipping boards and even the topsail were broken up for this purpose. Other vessels have reported meeting with vast ice-floes extending over an area of many hundred square miles, besides innumerable isolated icebergs, whose slow progress southward is a serious obstacle to the safe progress of shipping. An important question to determine is the extreme point to the south to which it is possible for an iceberg to be carried—in other words, what is the probable "life" of an iceberg as soon as it passes the shores of Newfoundland on its southerly progress toward gradual destruction. A contemporary suggests that two or three men-of-war might be usefully engaged in this work, carefully observing the course of an iceberg from a point in the far north to the moment of its total disappearance beneath the rays of a tropical sun, and taking daily notes of its gradual reduction in size. It ought not, also, to be difficult to organize a system by which icebergs could be supplied with two or three lamps, constructed to burn for the necessary length of time, so that they might be easily observed at night; and, finally, we would repeat the suggestion that, if men-of-war are employed on "iceberg police duty," they

might gain practical experience in the use of torpedoes by destroying the larger specimens by means of those deadly submarine engines, for practical experiments with which they have so few opportunities.

**AN INTERESTING VASE.**—There exists in the ceramic department of the Musée du Louvre a curious Siamese vase which has an interesting history. During the period that M. Turquet presided over the Fine Arts Department of the government, there came to him one day an old woman who brought with her this vase, which she was anxious to sell. Her son, who was a sailor, had given it to her, and she being in dire pecuniary straits, had been trying for some time to dispose of it. She had offered it without success to many of the famous art-collectors of Paris, and nobody would purchase it, though the price she asked was by no means exorbitant, being only 300*fr.* M. Turquet examined the vase carefully and was decidedly at a loss as to what its value might be, as he had never before seen any specimen of the ceramic art in any way resembling it. However, he saw that it was of fine workmanship, so he paid the woman the sum demanded, intending, if the government experts did not approve of his purchase, to place it in his own private collection. He showed it to the Director of the porcelain works at Sèvres, who at once pronounced it to be a very fine and artistic piece, and it was accordingly placed in the museum of porcelain attached to that institution. A few months later a distinguished Siamese traveller came to Paris, and visited, in the course of his sight-seeing, the museum at Sèvres. He was shown the Siamese vase, on beholding which he was greatly astonished, declaring it to be one of the sacred vases of Siam, the sale or exportation of which is strictly forbidden, and which are in use in the grand temple at Bangkok only. The value of the vase he pronounced as being not less than 25,000*fr.*, being a unique and very perfect specimen of the sacred vase, which is the finest executed in Siam. M. Turquet had the vase removed to the Louvre, and caused its original owner to be sought out. The French Government settled upon her an annuity of 1200*fr.*

**RECLAMATION OF THE ZUYDER ZEE.**—The preliminary surveys for the proposed reclamation of the Zuyder Zee have been finished, and the work of building the walls will soon begin. A dyke about 24½ miles in length will be constructed of sand and faced with clay, reaching 16 feet above the level of the sea, which will make it about 6½ feet above the highest tide. The thickness of the dyke will be such as will enable it to resist the

heaviest seas. Operations will begin at four different points, and the calculation is to have it completed in from seven to ten years, at a cost of \$46,000,000.

**KRUPP'S MANUFACTORY FOR CANNON.**—In the way of vastness in a manufacturing establishment, nothing in the past or present can compare with the extent of Herr Krupp's, at Essen. Of steam-boilers he has 439; of steam-engines, 456, their aggregate horsepower being 18,500; of steam-hammers, 89; of rolling-mills, 21; of furnaces, 1556; of locomotives, 25; of machines for making tools, 1622; and the population of this working-men's city is 15,700.

**BICYCLING IN FRANCE.**—The vice-president of the Lyons Bicycle Club has just made an extraordinary tricycle journey, accompanied by his wife, on a two-seated machine. They went from Lyons, through Nice, Genoa, and Rome, to Naples, returning *via* Florence and Turin—a journey of 2300 miles, at an average of fifty to sixty miles a day on the road.

#### AT SET OF SUN.

If we sit down at set of sun  
And count the things that we have done,  
And, counting, find  
One self-denying act, one word  
That eased the heart of him who heard;  
One glance most kind  
That fell like sunshine where it went,  
Then we may count that day well spent.  
But if through all the life-long day  
We've eased no heart by yea or nay;  
If through it all  
We've done no thing that we can trace  
That brought the sunshine to a face;  
No act, most small,  
That helped some soul and nothing cost,  
Then count that day as worse than lost.

ELLA WHEELER.

#### BOOKS RECEIVED.

[The Publisher will send any book reviewed in the *ECLECTIC*, or any other new publication, postage paid, on receipt of the price.]

"*Elaine*." By MRS. A. CRAVEN, from the French by Lady Georgiana Fullerton. New York: Wm. S. Gottsberger. 340 pp., paper. Price, 50 c.

*Natural Religion*. By the author of "Ecce Homo." Boston: Roberts Brothers. 250 pp., 16mo, cloth. Price, \$1.25.

*Leaves of Grass*. By WALT WHITMAN. Phila.: Rees Welsh & Co. 382 pp., 12mo, cloth. Price, \$2.

*Kinley Hollow*. By G. H. HOLLISTER. (Leisure Hour Series.) New York: Henry Holt & Co. 300 pp. Price, \$1.

*Pantalella: A Romance of Shekeland*. An American satire. New York: Am. News Co. 239 pp., paper. Price, 50 c.

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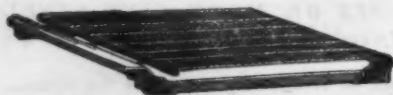
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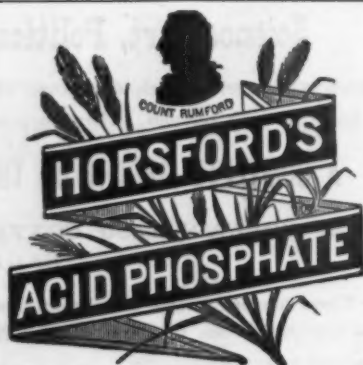
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SILK manufacture is steadily expanding and increasing in prosperity in this country. The Silk Association of America reports that the products of the year ending June 30, which amounted in value to about thirty-five millions of dollars, are triple the value of the products of the factories 10 years ago. Since 1870 the product and the productive capacity of the industry have very greatly increased. Within the decade the number of factories engaged in silk manufacture has increased from 86 to 388, while the looms increased from 1500 to 8000, and the hands employed from 6600 to 31,300. The wages paid rose in the 10 years from \$2,000,000 to \$9,000,000, and many new States not previously engaged in the industry began to manufacture silk, and now have factories at work. These States are Maine, Rhode Island, California, Illinois, Kansas, and Missouri. The main part of the business is still, however confined to New Jersey, New York, Connecticut, Massachusetts, and Pennsylvania. The American factories, we are told by the association's report, have succeeded in materially reducing silk goods importations, and last year doubled the business done in the best year previous to the panic of 1873. As yet imported raw silk has to be used in American manufactures, as silk-raising is still in its infancy here. The American-made silk is gaining an acknowledged superiority, and makers are taking every precaution to maintain its standard of purity and guard against adulteration. It is often tested with the very best French-made goods as a standard, the simplest test of purity being to burn a small quantity of the threads. If pure, the latter will crisp at once, leaving a residue of pure charcoal only. Silk which has been subjected to treatment with heavy dyes will smoulder a while and leave a yellow and greasy ash behind.

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**A RICH TIN MINE.**—Of the western half of Tasmania little, comparatively speaking, is known. Intersected by lofty mountain ranges, split asunder in every direction by precipice-walled gullies; varied by wide-spreading heathy plains, the pasturage of which is generally inferior; or by vast eucalypti, giant trees in many instances attaining an altitude of more than 300 feet, with a girth of 60 feet and upward; or, again, by undulating country, so densely covered with scrub as to be almost impracticable even to an experienced bushman, and subject to a rainfall estimated at 140 inches per annum; the far west of this island has been explored and "prospectured," but never settled. There are one or two camps of timber-getters on the coast line, and in the northwest districts a few good bits of pasturage have been taken up for stock-raising, but evidence of regular settlement of the country does not exist. To the westward of the Surrey Hills, however, in the county of Russell, and at a distance of a hundred miles from Launceston, lies Mount Bischoff, and here a few adventurers found tin in 1872. A company was formed, and workings were begun; an eminent mineralogist reported that the mountain was almost a mass of tin, the ore yielding from 70 to 80 per cent of pure metal; large smelting works were erected at Launceston, and in the year 1876 a thousand tons of tin were raised. Five dollars only have been paid up on each share, but the present market price is from \$300 to \$350, the company during the last four years having paid a dividend every two months of \$2 per share. A fortunate gentleman in Hobart, who expended \$4000 in the purchase of 700 shares in 1873, now rejoices in the receipt of \$10,000 a year as the income of his investment.

**INTERNATIONAL POSTAL BUREAU.**—The International Postal Bureau at Berne has just issued its statistics for the year 1879, covering the twenty-five principal countries belonging to the postal union. During the year 8,200,000,000 pieces were sent by post, of which 4,900,000,000 were letters and postal-cards. Of the enormous total 5,624,000,000 pieces are credited to Europe, 2,366,000,000 to

America, 205,000,000 to Asia, 73,000,000 to Australia, and 12,000,000 to Africa. Reckoning the population of the globe at 1,400,000,000, the total would allow 5.9 pieces of mail matter per capita. Among the nations England sent the largest number, 1,587,000,000 pieces, and Germany the next largest, 1,200,000,000. In the use of postal-cards Germany came first, with 123,000,000, and England followed, with 114,000,000.

ENGLISH LAWYERS AND AMERICAN.—In his "Impressions of America," just published in the *Fortnightly Review*, Mr. Freeman sets down that in matters of English legal history there are some American lawyers "who have made their way to the firm ground of Stubbs and Maine." This is true, but it is a little short of the truth. Some of our brethren on the other side have not only made their way to the firm ground, but are making notable advances of their own upon it, and unless our teachers and students look to it earnestly and speedily, English lawyers are in danger of being left far behind by the Americans in what ought to be especially their own business.

MRS. LANGTRY.—Mrs. Langtry's provincial tour of 12 weeks was brought to a close with a clear net profit of \$43,765. Before separating, her company presented her with a handsome album. It was her original intention to extend the tour to Ireland, but the strain of so much continuous work was too much for her health, so that she was obliged to abandon the project. She will begin a short season of 12 nights in London about the middle of September, after which she will depart for the United States.

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They're consummately anxious to clear St. Jerome's Creek.

They'll dig out every rivulet, so mighty is their cheek,  
If they'll but stay in session yet for another week.

They want three thousand dollars to trim the Big Hatchee;

A trifle more to fix the Back Bay of Biloxi;

And for the Yaddin River, as one can clearly see,

They'll spend full twenty thousand in a charitable spree.

They'll drain the Romley marsh, and the River of Obed;  
Peas Creek, in Florida, shall have a brand new bed;  
And the Tradewater River, from its mouth up to its head,  
Shall float huge ocean steamers without a scrape or dread.

VOLUNTARY CONTRIBUTIONS.—The Boston *Herald* tells of a clerk in the Treasury Department whose "voluntary contributions" during the present year will have amounted to ten per cent of his salary. He first paid the two per cent tax assessed by Hubbell, and then a three per cent assessment from Mahone, and he is about to pay a further tax of five per cent, also demanded by Mahone. The victim was appointed from Virginia. He regrets the payment to the so-called Congressional Campaign Committee. "You can trifle," he says, "with Hubbell, but not with Mahone."

EMERSON.—An epigram by Emerson has just been made public in London. It was written in the album of a well-known firm of photographers to whom he sat for a photograph during his last English visit. When asked to write something, he without hesitation penned these words:

"The man who has a thousand friends  
Has not a friend to spare;  
But he who has one enemy  
Will meet him everywhere."

#### BOOKS RECEIVED.

[The Publisher will send any book reviewed in the *ECLECTIC*, or any other new publication, postage paid, on receipt of the price.]

*Memoir of Daniel Macmillan.* By THOMAS HUGHES. New York: Macmillan & Co. 12mo, cloth, pp. 308. Price, \$1.50.

*History of the Ancient Britons.* By THOMAS W. POWELL, Delaware, Ohio. 4to, cloth, pp. 481.

*Look Before You Leap.* By Mrs. ALEXANDER. (Leisure Hour Series.) New York: Henry Holt & Co. Cloth, 250 pp. Price, \$1.

*Constitutional History and Political Development of the United States.* By SIMON STERNE. New York: Cassell, Petter, Galpin & Co. 12mo, cloth, pp. 323.

*In the Saddle.* A collection of poems on Horseback Riding. Boston: Houghton, Mifflin & Co. 32mo, 185 pp. Price, \$1.

*Great Epics of Mediæval Germany.* By GEORGE THEODORE DIFFOLD. Boston: Roberts Bros. 12mo, cloth, pp. 323. Price, \$1.50.

*Under the Sun.* By PHIL. ROBINSON, with a Preface by EDWIN ARNOLD. Boston: Roberts Bros. 12mo, cloth, pp. 366. Price, \$1.50.

*The Slaves of Paris.* By EMIL GABORIAU. Boston: Estes & Lauriat. Paper, pp. 270. Price, 50 cents.

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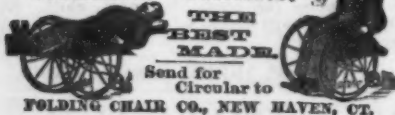
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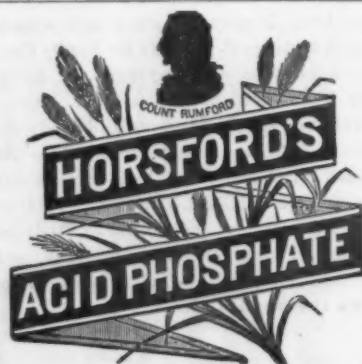
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between the government jails and the caste weavers. It is only from provinces far away from European influence that anything worth buying can now be had. He hopes much from the revival of taste in England, and thinks that with more universal culture we shall come to reject the pretentious and worthless manufactures now flooding the market.

**SALMON FISHING IN OREGON.**—On the Columbia River a corporation has built a dam and put an immense wheel in the sluice-gate, where all the water must run through. This wheel has paddles like troughs that "scoop" the fish out of the water and deposit them in troughs, whence they slide into a hopper. The large fish are cooked and canned, and the poor ones, dead or alive, are thrown back into the stream. This is not fishing, but butchery; for in the teeming waters of the Columbia, one of the wheels throws out enough fish in the course of an afternoon to keep the neighboring canning factory busy for a week. In Scotland, whence most of our delicious salmon formerly came, the fish are largely taken with nets, and the net-fishing season has just closed. The season opened well, but it has not been a productive one. During the first three months 3598 boxes of 150 pounds each were received at Billingsgate, against 3175 boxes during the same period in 1881. The yield began to fall off about the middle of June, and at the end of August the total supply at Billingsgate was 1887 boxes less than last year. The best season was that of 1874, when over 33,000 boxes were sent up to London. The Tay and the Tweed are, of course, the great Scottish salmon-fishing rivers. The fishing rental of the Tay is now about £18,500, or nearly £4000 lower than in 1880. When fishing privileges can be made so valuable it is like throwing so many government notes into the fire to allow fishing to be done as it is now done on the Columbia River.

**THE RUSSIAN ARTILLERY** are now provided with new steel guns, manufactured by Krupp at Essen, and also in the Russian Ordnance Factory at Obookhov. The reserve of the artillery will also be provided with similar guns instead of their old bronze cannon. One hundred and twenty-five of such guns have been ordered at Obookhov.—*Joujni Kray, Kharkoy.*

**A PRECIOUS MANUSCRIPT RECOVERED.**—A manuscript, which for many years was thought to have been lost, has just been found at the Castle of Chantereine, in Sarthe, France, among some waste paper. There are a great number of marginal notes which are supposed to have been written by the young Dauphin, during his captivity at the Temple. This document is only a *résumé* of the life of some kings, of whom the latter is Louis XV. The name of the author of the work is not known, but it is supposed to be one of the professors of the Dauphin. The history of this manuscript is very curious. It was first given to the Chantereine family by the Duchess of Angoulême. Some years later a robbery took place at the Castle of Chantereine, and the papers disappeared. In 1856 they were given back to the owner by a priest to whom the thief had made a confession on his death-bed. M. Bocquet, of Chantereine, no doubt wishing to avoid another subtraction, hid them so carefully that, though his death happened many years ago, they have only just been discovered. The manuscript has now been deposited in the Mans Museum.

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**IRISH EMIGRATION.**—The emigration from all the Irish ports in the year 1881 was less than in 1880 by 17,138, the total for 1881 having been 78,719. All except 302 of these 78,719 were natives of Ireland. Leinster furnished 16,232 of them, Munster, 21,752, Ulster, 24,101, and Connaught, 16,332. Since 1851 the total emigration has been 2,715,604, the yearly number having fluctuated from 190,322, in 1852, to 37,587, in 1876. Of those who went away last year, 78.4 per cent went to the United States, and 10,623 to Great Britain.

#### RICHES AND FRIENDSHIP.

A CERTAIN man of vast estate,  
And generous mind withal,  
So freely spent it on his friends,  
He soon had none at all.

His fickle friends discovered this,  
And then their worth they showed:  
They left him, nor e'en paid the debt  
Of gratitude they owed.

Ere long the man got rich again—  
Much richer than before;  
And those who then received so much,  
Came now—expecting more!

The man had by this time, howe'er,  
A lesson great been taught;  
And straight he sent them all away,  
With the large sum of—naught!

Friends, he had learned, do round us flock  
When we are rich and great;  
But when want comes and troubles rise,  
They leave us to our fate.

And he had learned what oft is seen  
When friends are in request,  
That those of whom we think the least  
Turn out to be the best.

*Chambers's Journal.*

**OLD NUMBERS OF ECLECTIC WANTED.**—We are in want of the following numbers of the *Eclectic Magazine*: March, 1865; February, 1866; and October, 1867. Parties having these numbers and wishing to dispose of them will please write us. As we wish them for binding, the absence of the plates will make no difference.

#### BOOKS RECEIVED.

[The Publisher will send any book reviewed in the *ECLECTIC*, or any other new publication, postage paid, on receipt of the price.]

*The History of Woman Suffrage.* Vol. II. Edited by ELIZABETH CADY STANTON, SUSAN B. ANTHONY, and MATILDA JOSLYN GAGE. Illustrated with four steel engravings. New York: Fowler & Wells. Large 4to, cloth, pp. 952.

*The Early Days of Christianity.* By F. W. FARRAR, D.D. New York: Cassell, Petter, Galpin & Co. 8vo, cloth, pp. 664. Price, \$2.

*Poems.* By HENRY PETERSON. Philadelphia: J. B. Lippincott & Co. 12mo, cloth, pp. 227. Price, \$1.

*Records of Later Life.* By FRANCES ANN KEMBLE. New York: Henry Holt & Co. Large 12mo, cloth, pp. 676. Price, \$2.50.

*Robin.* By LOUISA PARR. Leisure Hour Series. New York: Henry Holt & Co. Cloth, pp. 305. Price, \$1.

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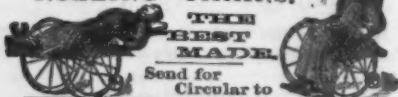
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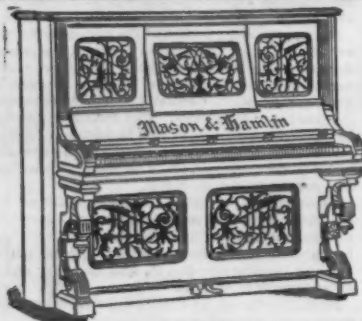
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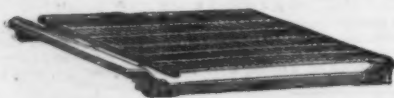
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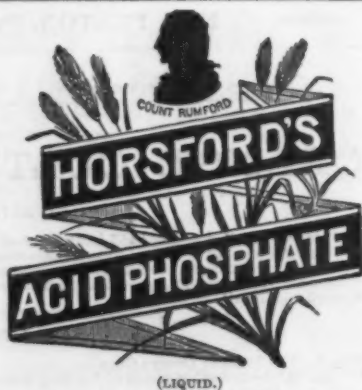
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### THE PUBLISHERS' TRADE-LIST ANNUAL.

LEYPOLDT'S Trade-List Annual for 1882 has just appeared, and like its predecessors is invaluable to all dealers and publishers. It contains the latest catalogues of all the leading publishers as furnished by themselves, also a reprint of the *Publishers' Weekly* record of books issued during the year ending July 1, 1882, and the American Educational Catalogue for 1882. This is the tenth year of its publication, and it appears to us to be the largest one ever issued. At the exceedingly low price at which it is issued every dealer will find it to his advantage to have it on hand for reference.

UNITED STATES NOTES.—United States notes are printed on paper made in Dalton, a small town in Massachusetts, and each blank sheet of the peculiar paper used is guarded almost as carefully as if it were already printed and signed. The mill in which it is made is one of the oldest in the country, having been established in colonial times. The grayish pulp which is the embryo form of the paper passes between heavy rollers, and, as it moves along, bits of blue and red silk thread are scattered over its surface. From the pulp-room to the vaults in which it is stored until it is sent to Washington it is jealously watched. It is carried to Washington in small iron safes, like those used by the express companies, and some of it is kept in the Treasury vaults for years, until it is needed. The mere possession of any of this paper by an unauthorized person is a felony. More than a thousand persons are employed in the Bureau of Printing and Engraving, at wetting, plate-printing, examining, pressing, numbering, binding, and engraving. The bank-note plates and stamp dies are kept in vaults that can only be opened by the joint labor of three men, and each opening occupies more than fifteen minutes. All the Presidents except the present one, have been portrayed on the bank-notes, and three Vice-Presidents, twenty-four Secretaries of the Treasury, ten Secretaries of State, six Secretaries of War, and three Postmasters General and Chief-Justices, beside twenty-six Senators and Representatives, and several persons distinguished in science and lit-

erature. The highest value in national bank-notes is \$1000. The printing of a bank-note requires from twenty-two to twenty-four days, and during the process it passes through the hands of fifty-two persons. The highest denomination of the legal-tender notes is \$10,000. There are also \$5000, \$1000, and \$500 notes. During the last year there were printed by the Government \$16,000,000 worth of legal-tender notes, \$68,000,000 of national bank currency, \$87,000,000 of bonds, \$38,000,000 of silver certificates, and 684,459,615 stamps for the Internal Revenue Department.

A FLOURISHING SOUTHERN CITY.—The annual review of the trade of Charleston shows a marked improvement. The crop returns are so favorable as to more than compensate for the disaster of last year. The yield of wheat, oats and corn far surpasses that of any previous season in South Carolina. The business of the city for the past year foots up \$75,000,000 against \$71,000,000 last year, notwithstanding the falling off in the receipts of cotton owing to the diminished yield of the last crop. The trade in naval stores, lumber and phosphate rock exhibits a very heavy increase. The factories of the city now number 138, employing 4456 persons, and a new cotton factory with 20,000 spindles is nearly ready to start. The condition of the truck-farming, jobbing and railroad interests is more prosperous than for many years past.

OLIVES AND ALMONDS.—The olive groves of San Diego are noted throughout the States, and the tree has become thoroughly naturalized, as men and trees are wont to do in America. So now, California olives are in greater request than Seville's in the Eastern States; and the number consumed is something marvellous, as it is customary to place a small plate of pickled olives beside each person at table, to be eaten during the intervals of dinner. Being Californian, they are, as a matter of course, twice the ordinary size, and very juicy and fresh in flavor. As a crop the olive is highly remunerative, one tree occasionally yielding as much fruit as will sell for \$50; and some trees, known to be seventy years of age, are still in full bearing. Like the orange it does not attain maturity till about the tenth year. Sixty trees are planted to the acre,

which is expected to return about \$900 per annum in pickled fruit and oil. Some men devote their whole care to almond-growing, and I hear of one gentleman, at Santa Barbara, who reckons his almond trees at 55,000.

**A MAGAZINE'S SUPPLIES.**—Between four and five hundred manuscripts are received each month by *The Century*, nearly three fifths of which are in verse. A little more than half as many are sent to *St. Nicholas*, and the proportion of verse is lower, being about one half. A record is kept of the incoming and outgoing of every manuscript, and since the magazines cannot print more than fifty out of the 700 or 800 received in a month, it is apparent that the sifting process requires great care, and is the chief burden of the editors.

**UDOLPHO WOLFE'S SCHIEDAM AROMATIC SCHNAPPS.**—It is scarcely necessary to call attention to an article so universally recognized as that of the Schiedam Schnapps. Its virtues have long since asserted themselves in cases to which it is peculiarly adaptable, and the immense sales effected throughout the markets of the world prove that it has intrinsic merit. It has been pronounced by scientists to possess the qualities of a gentle stimulant and fine invigorant, and careful analyses have proven that it is entirely free from all adulterating ingredients.

**THE LIGHT AFFLICTION DEPARTMENT.**—Charles Dickens had a very good story about the early days of a renowned mourning establishment. He went there one day about some mourning, and was ushered into a room where sat a shopman with an attendant in woe-stricken habiliments, who groaned out, "A father, a mother, perhaps a wife." "Oh, no," said Dickens, "only a distant relative!" "Oh, sir," said the funereal one, "you have made a mistake; this is the chamber of agonizing woe. John, toll the bell and show the gentleman into the light affliction department."

**WEBSTER'S OLD HOMESTEAD.**—In Daniel Webster's old dining-room at Marshfield the chimney divides over the fireplace, and makes room for a window with a fine view. This room contains a water pitcher beaten by Chinese silversmiths from two hundred Mexican dollars.

**COST OF SEAT IN N. Y. STOCK EXCHANGE.**—The value of seats in the Stock Exchange has been advanced rapidly. When ex-Surrogate Hutchings sailed for Europe last summer he sold his seat in the Exchange for \$26,000, and other sales made at about the same time

were at similar figures. Lately, however, Mr. William Pollock was admitted to membership in the Stock Exchange, and for the seat he purchased he paid \$35,000. This is the highest price ever realized. When business was at its briskest point a year or so ago sales were made in the vicinity of \$32,000.

#### BOOKS RECEIVED.

[The Publisher will send any book reviewed in the ECLECTIC, or any other new publication, postage paid, on receipt of the price.]

*Norse Stories.* Retold from the Eddas. By Hamilton Wright Mabie. Boston: *Roberts Brothers.* 12mo, cloth, pp. 168. Price, \$1.

*Art and Nature in Italy.* By EUGENE BENSON. Boston: *Roberts Brothers.* 12mo, cloth, pp. 188. Price, \$1.

*John Randolph* (American Statesmen Series). By HENRY ADAMS. Boston: *Houghton, Mifflin & Co.* 12mo, cloth, pp. 313. Price, \$1.25.

*The Home Needle.* (Appletons' Home Books.) By ELLA RODMAN CHURCH. New York: *D. Appleton & Co.* 12mo, cloth, pp. 128. Price, 60 c.

*Home Occupations.* (Appletons' Home Books.) By JANET E. RUUTZ-REES. New York: *D. Appleton & Co.* 12mo, cloth, pp. 155. Price, 60 c.

*The Bryant Birthday-Book.* Arranged by JANET E. RUUTZ-REES. New York: *D. Appleton & Co.* 18mo, cloth, red edges. Price, \$1.25.

*Wisdom of the Brahmin.* A Didactic Poem. Translated from the German of FRIEDRICH RUCKERT. By Charles T. Brooks. Boston: *Roberts Brothers.* 12mo, cloth, pp. 252. Price, \$1.25.

*Christ's Christianity.* Being the Precepts and Doctrines recorded in Matthew, Mark, Luke, and John, as taught by Jesus Christ. Analyzed and arranged by ALBERT H. WALKER, of the Hartford Bar. New York: *Henry Holt & Co.* 12mo, cloth, pp. 178. Price, \$1.25.

*A Guide to Modern English History.* By WILLIAM CORY. Part II. New York: *Henry Holt & Co.* 8vo, cloth, pp. 567. Price, \$3.50.

*Corea: The Hermit Nation.* By WILLIAM ELLIOT GRIFFIS, author of the "Mikado's Empire." New York: *Charles Scribner's Sons.* 8vo, cloth, pp. 462. Price, \$3.50.

*Cupid, M.D.: A Story.* By AUGUSTUS M. SWIFT. New York: *Charles Scribner's Sons.* 12mo, cloth, pp. 172. Price, \$1.

*Campaigns of the Army of the Potomac.* By WILLIAM SWINTON. New York: *Charles Scribner's Sons.* Large 8vo, pp. 660. Price, \$3.

*The Irish Question.* By DAVID BURNETT KING. New York: *Chas. Scribner's Sons.* 12mo, pp. 471. Price, \$1.50.

*Heinrich Heine: The Romantic School.* Translated by S. L. FLEISHMAN. New York: *Henry Holt & Co.* 12mo, pp. 273. Price, \$1.50.

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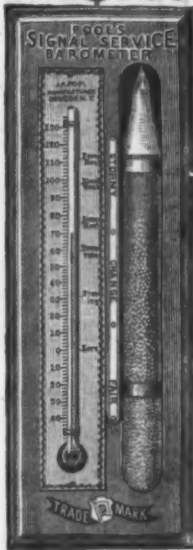
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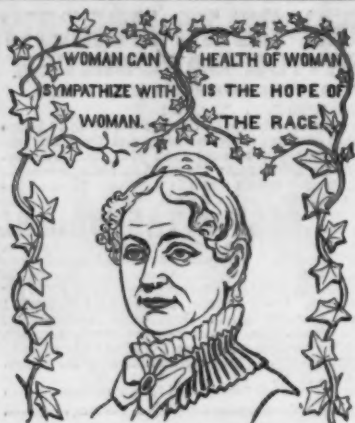
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